





COLLECTION  
OF  
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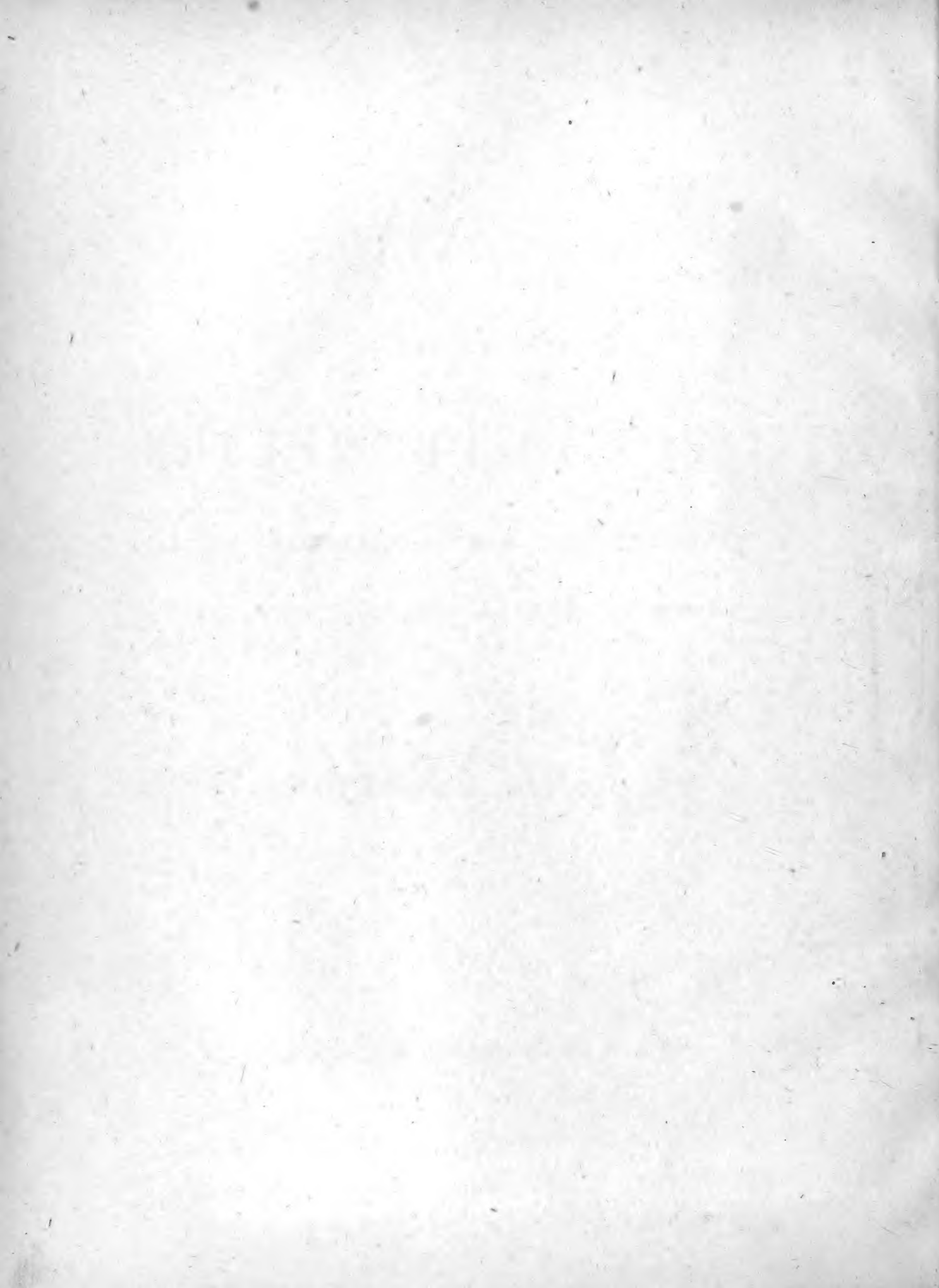
LEWITSON W. C. *ILLUSTR. NEW SPEC. EXOT. BUTTERFLIES:*  
SUPPLEMENTARY NOTE ON THE COMPOSITION AND DATES  
OF PUBLICATION OF CERTAIN PARTS

By Francis HEMMING, C.M.G., C.B.E.









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for dates to this work vols. 1-5 see  
Nov. Zool., vol. 39, pp. 179-206, 1932  
Jr. Soc. Bib. Nat. Hist., vol. 1, pt. 5, pp. 143-148  
May, 1938.

**ILLUSTRATIONS**  
**OF NEW SPECIES OF**  
**EXOTIC BUTTERFLIES,**

**SELECTED CHIEFLY FROM THE COLLECTIONS**  
**OF**  
**W. WILSON SAUNDERS AND WILLIAM C. HEWITSON.**

**BY**  
*hapman*  
**WILLIAM C. HEWITSON.**

**VOL. I.**

**JOHN VAN VOORST, LONDON.**

*Pub. Oct. 1896.*

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## INTRODUCTION.

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ALTHOUGH the first volume of the "Exotic Butterflies," which is now brought to a close, has not succeeded in a pecuniary point of view, we do not hesitate to proceed with a second—having abundant materials with which to fill its pages—willing to consider any loss which we may sustain as a slight contribution towards the advancement of our favourite science, and unwilling that the many beautiful things which have delighted our own eyes should not also be enjoyed by our brother naturalists.

Two hundred and seventeen butterflies have been figured as new and distinct species, and I believe they will stand the test of close examination. No one can deprecate more than I do the needless multiplication of species in which some of the naturalists (especially ornithologists) of the present day, both in France and England, seem to take so much pleasure, who, with the knowledge always before them that certain species vary *ad infinitum*, that others are cosmopolitan in their range, nevertheless take some extra spot of colour, aided by some slight geographical separation, as sufficient ground upon which to erect a species. I have, however, learned to give great deference to the opinion of any one who may be closely studying some particular group, having myself come to a decision with regard to some of the *Ithomias*, which I have afterwards reversed upon nearer acquaintance with them, wondering at my own want of acumen; indeed, so intimate have I become with specimens in my own cabinet, as to know them from others of the same species, when there was no appreciable difference. Mr. Wollaston has aptly compared the progress we make in the study of Natural History, to our approach to some mountain range, which, though undefined at first, reveals unexpected beauties as the eye becomes "trained" to see them.

With regard to two or three species, it may be thought that I have allowed too much scope for variation, but with the exception of the two *Ithomias* figured at 66 and 67, which it would have been perhaps as well to separate, I have no reason to change my opinion.

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*Pub Oct 1, 1856.*

I wish, in committing these drawings to the public, that they could convey to others some of the intense pleasure which the beautiful originals have given me; that the animus with which they have been traced could be imparted to a kindred mind.

Let us not love and study these exquisite things for themselves alone, but as beacons of light to guide us on our heavenly way, and let us love and bless the wondrous skill which placed them there, let us think what must be the glory of that future which we are promised, when these, the most trivial decorations of a world which we are told is but temporal, are so transcendently beautiful. Regarded thus, they will possess a power to please which they never possessed before.

“There 's nothing bright, above, below,  
From flowers that bloom to stars that glow,  
But in its light my soul can see  
Some feature of the Deity.”

For some of the errors which mar the pages of the book (the result of my own carelessness) I have to grieve—others were unavoidable, and have only been made apparent by the light of increasing acquisitions.

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Ithomia Galita is Hubner's Nereis Cymo.

Ithomia Sisera is Hubner's Nereis Doto.

Ithomia Vallonia (13) is probably only a variety of Hubner's N. Ninonia.

Ithomia Hezia (21) is a Mechanitis.

Ithomia Cesleria (41) is the female of I. Avella (27), and must change her name.

Ithomia Virginia (54) must be called Virginiana, Virginia having been used at (18).

Ithomia Telesto (56) is (I believe) Guérin's H. Annetta. (Icon. du Règne Animal).

Ithomia Attalia is possibly the female of H. Cyrene of Latreille (Humboldt and Bonpland), which I have never seen.

Catagramma Parima (3) is a variety of Guérin's C. Hesperis. (Icon. du Règne Animal).

Catagramma Eluina (30) is not sufficiently glossed with blue—when seen with its head to the light, it is one of the most beautiful of the genus.

At the commencement of the work, I expressed an opinion that the butterflies which formed the genera of *Epicalia* and *Myscelia*, were near enough to form one genus. They have since proved to be the sexes of the same species. *Myscelia Samaria* of the plate is the female of *Epicalia Sabrina* of the same plate.

*Epicalia Pierretii* (Pl. 29) and *Myscelia Chromis* (27), both of the "Genera of Diurnal Lep.," are male and female of the same species.

*Epicalia Numilius* (Cram., Pl. 81) and *Myscelia Micalia* (P. Mic., Cram., Pl. 108) are sexes of one species, and I believe that *Epicalia Autinoe* Godt, is the male of *Epicalia Penthia* of this work.

Although great care has been taken by Mr. Standish with the Plates, some of the delicate *Ithomias* of Plate VII. are rather too highly coloured; figs. 38, 39, and 40, are sometimes quite white.

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N.B.—An Index is given, by which the binder will be enabled to arrange the Plates, as in the "Genera of Diurnal Lepidoptera."

A second Index, alphabetically arranged, is given for the benefit of those who will take the trouble to number the Plates (from 1 to 60), and the letterpress (from 1 to 120), after the book has been arranged by the first Index.

OATLANDS, WALTON-ON-THAMES.

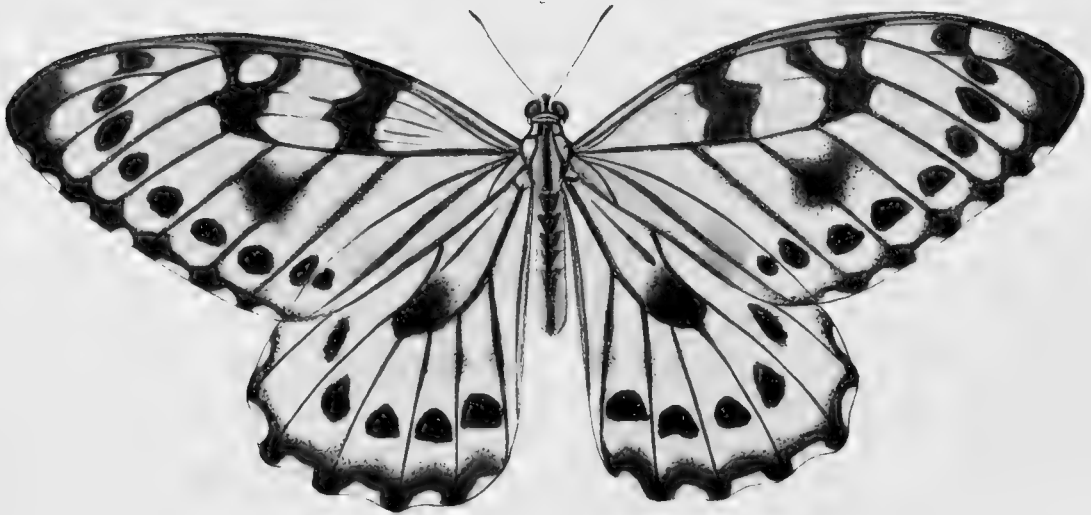
Sept. 15, 1856.







PAPELONIA.  
OF NITOPTERA & PTERODACTYLOPTERA.



7. H<sub>2</sub>O<sub>2</sub>, or. 100 ml + 100 ml

Printed by Hullmandel & Walton

1. H. NITHOPTERA BROOKIANA Wallace

2 PAPILIO IDÆOIDES Gray

# PAPILIONIDÆ.

## ORNITHOPTERA.

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### ORNITHOPTERA BROOKIANA. 1.

*Ornithoptera Brookiana.* Wallace, *Trans. Ent. Soc.*, 1855.

UPPERSIDE. Male, black, with a broad longitudinal band of golden green from near the apex of the anterior wing to the inner margin of the posterior wing. On the anterior wing, below the middle, divided into seven hastate spots pointing to the outer margin, which they nearly touch. On the posterior wing at the middle divided by the nervures, which are black. Abdominal margin with a fold, as in some of the Papilios.

UNDERSIDE black. Anterior wing with a line of blue at the base of the costal nervure; a longitudinal band just below the median nervure, and composed of four spots, the first, commencing at the base blue and ending green, followed (one between each of the median nervules) by three large sagittiform spots pointing upwards. Posterior wing with a ray of blue just below the costal nervure near its base and a line of grey triangular or diamond-formed spots (the latter divided by the nervules) near and parallel to the outer margin. Each wing with a crimson spot at the base.

The body belted twice with crimson.

Expan.  $6\frac{7}{10}$  in. Hab. Borneo.

In the Collection of W. C. Hewitson.

This is very unlike any other species of Ornithoptera. Besides its marked difference in form, it possesses the abdominal fold as in some of the Papilios, but of greater extent than most of them, and when unfolded, more than half an inch across, and filled inside by a quantity of exceedingly fine elastic rufous hairs. It has been named by Mr. Wallace, in compliment to Captain Brooke, the Rajah's brother.

*July Oct 1 1855.*

# PAPILIONIDÆ.

## PAPILIO.

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### PAPILIO IDÆOIDES. 2.

*Papilio Idæoides.* G. R. Gray, M.S.

UPPERSIDE white. Both wings, with the costal and outer margins, the nervures (the median nervules broad), and a row of lunular spots parallel to the outer margin, black. Anterior wing, with the apex, broadly black. Some indistinct longitudinal lines in the cell, a broad band across its middle, another at its end (chiefly within it, inclosing an oblong white spot), and a large indistinct spot (chiefly between the second and third median nervules) black. Posterior wing, with a line placed longitudinally and a large spot at the end of the cell, black. The outer margin of both wings with white, lunular, or oblong spots.

UNDERSIDE differs only in having a small black spot at the anal angle of the posterior wing.

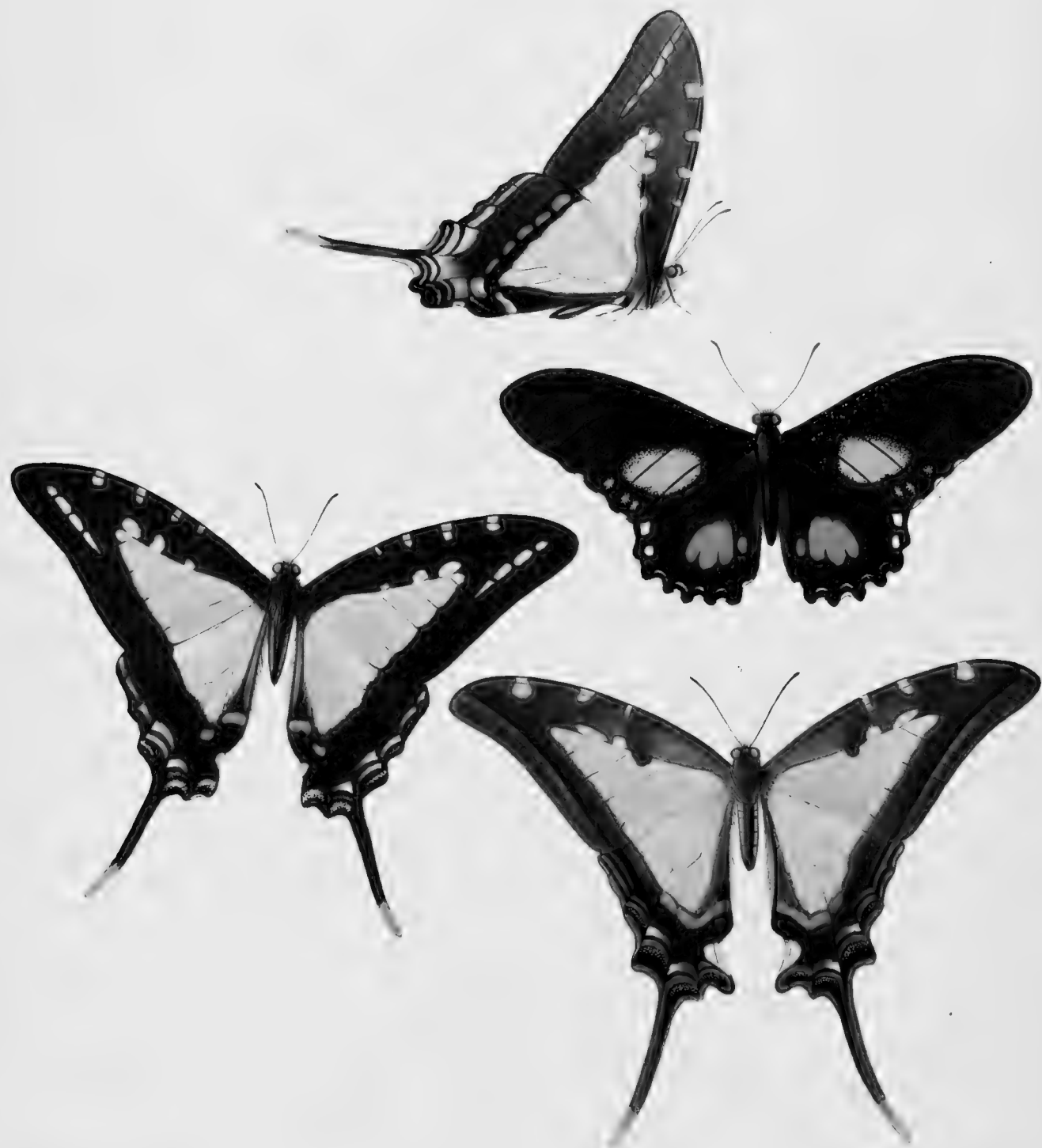
Expan.  $5\frac{7}{10}$  in. Hab. Philippine Islands.

In the Collection of the British Museum.

This is one of the most remarkable amongst the many contrasting forms and varied modes of colour, which mark the genus *Papilio*. It would scarcely be known at first sight from an *Idea*. *Papilio Hippocoon*, and *Danais Niavius*, are sometimes put together in collections as the same species. *Papilio Boisduvallianus*, and the female of *Acræa Iodutta*, but for the difference of the nervures and antennæ, do not differ more than closely-allied species of one genus. Two or three *Papilios* represent very closely some of the *Euplœas*, but it is remarkable that this close approximation in appearance is chiefly seen between *Papilio* and the *Danaidæ*, and though it occurs also between *Papilio* and *Acræa*, and to a certain extent in the likeness between *P. Zagreus* and *Heliconia* (neighbouring families to the *Danaidæ*), it is not seen in the *Nymphalidæ*, or other groups.







*Papilio polydamus*

*Papilio polydamus*

*Papilio polydamus* *Papilio polydamus*

*Papilio polydamus* *Papilio polydamus*

## PAPILIONIDÆ.

### PAPILIO II.

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#### PAPILIO DIOXIPPUS. 3, 4.

UPPERSIDE. Male, black, with a large central triangular space of pale yellow, bounded on one side by the abdominal fold, on another by the median nervure of the anterior wing, on the upper side of which nervure, and touching it, there are three small spots. On the costal margin there are also three yellow bifid spots, and a row of four or five spots of the same colour from near the apex, running parallel to the outer margin. Posterior wing tailed, with two crimson spots and a small yellow spot at the anal angle, a row of yellow lunular spots near the outer margin, and two blue lunules at the base of the tail, on its inner side. The end of the tail, which is long, yellow.

UNDERSIDE as above, except that it is lighter, especially near the tail. Posterior wing with five crimson spots in addition to those described above, which cross the wing near the lower edge of the central yellow.

Expan.  $3\frac{8}{10}$  in. Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

There is a variety of *P. Dioxippus*, which has the upper edge of the central yellow emarginate as in *Leucaspis*.

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#### PAPILIO LEUCASPIS. 5.

*Pap. Leucaspis* Godart *Encly. p.* 55.—*Boisd. spec. gen. p.* 349.

UPPERSIDE. Male, red-brown, with a large central triangular space of light yellow, bounded on the anterior wing by the median nervure, on the upper side of which nervure, and touching it, are two spots of the same colour, and below it a triangular black spot. Costal margin with three nearly equi-distant small bifid spots,

c c

also yellow. Parallel and near to the outer margin, there is a narrow band of brown, lighter than the rest of the wing, accompanied on its inner edge by a band of black. Posterior wing tailed with a similar submarginal broken band of light brown, traversed by a line of black, with between it and the margin four lunular spots of blue. A band of crimson from the anal angle to the middle of the wing, and below it on the inner margin a lunular spot of yellow.

The tail, which is long, tipped with yellow.

UNDERSIDE, as above, except that the posterior wing has a narrow line of crimson, scarcely divided into spots—from the anal angle to the costal margin, parallel and very near to the edge of the central yellow.

Expan.  $3\frac{9}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

Although described by Godart there is no published figure of this species, I have therefore thought it of use to place it in close proximity to the new species, to show the great resemblance which they bear to each other, as well as the difference of form. I have not seen females of either species.

## PAPILIO EURYLEON, 6.

UPPERSIDE. Male, black. Anterior wing with a large green-white spot near the middle of the inner margin, trifold by the nervures. Three small indistinct white spots near the inner angle and the outer margin. Posterior wing with a central spot of crimson of three nearly equal parts, with between it and the anal angle one or two small spots of the same colour. The outer margin with the usual lunular white spots, and parallel and near to them a row of similar white lunules, but less distinct, with the exception of the two nearest the apex, which are large.

UNDERSIDE. Anterior wing spotless, with the exception of the small spots near the inner angle. The posterior wing has, instead of the trifold crimson spot, two round pink-white spots, which are placed between the median nervures, the two red spots as above at the anal angle, two red spots at the base of the wing, the marginal and submarginal row of white lunules as on the upperside, and above and parallel to them (but not extending to the two large spots near the apex), a third row of indistinct crimson lunules or spots.

Thorax underneath, with some red spots. Several of the folds of the abdomen near the anus marked with light red.

Expan.  $3\frac{2}{10}$  to  $3\frac{5}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson and W. W. Saunders.

There is a variety of this species without the small white spots of the anterior wing, and without the submarginal lunules of the posterior wing, the two apical spots scarcely seen.

This species seems equally to represent two groups. In colour, it resembles the nineteenth group of Boisduval, in which are *Proteus* and *Vertumnus*. In form, and the arrangement of the red and white lunules on the underside of the posterior wing, it is more like *Choridamas* and *Hyperion* of his twenty-second group.







## PAPILIONIDÆ.

### PAPILIO. III.

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#### PAPILIO WALLACEI. 7.

UPPERSIDE dark green-brown, with numerous white spots. Anterior wing crossed longitudinally at the middle by a macular band of nine unequal spots, decreasing in size towards the apex. The first spot (which is on the inner margin) and part of the second bright green; the others white; a line of bright green at the base; six narrow spots within the cell, two just beyond the cell, one beyond these near the costal margin, and a row of small spots between the central band and the outer margin all white. Posterior wing light brown from the base to beyond the middle, the cell crossed by a lunular spot of bright green, which joins the band of the anterior wing. A round black spot within the cell at its lower end. A lunular white spot between the subcostal nervules.

UNDERSIDE light brown. Anterior wing as above, except that there is a band of light brown across the middle of the cell; that the end of the cell is lilac, and that there is a longitudinal band of the same colour, below the central band, divided by black spots which connect the spots of the central band with the small spots described above. Posterior wing with two spots of bright green near the base, separated by a band of blue-black, marked with two crimson spots. A lunular lilac spot near the end of the cell, and beyond it a row of black spots, one between each nervule, the lower end of each spot marked with white. The inner margin gray.

Expan. 4 in. Hab. New Guinea.

In the Collection of Mr. Wallace.

*Fig. 1. Papilio wallacei.*

## PAPILIO ONESIMUS. 8.

UPPERSIDE white. Anterior wing, with the margins, the nervures, and lines between these nervures near the apex, brown. Part of the cell and the lower portion of the wing clouded with brown atoms. Posterior wing dark brown from below the middle, lightest where the nervules cross, darkest (forming large oval spots) between the median nervulæ; crossed by a row of lunular spots parallel to the outer margin, the two nearest the apex bright orange, the one at the anal angle orange-yellow, the rest slightly tinted with the same colour.

UNDERSIDE differs only in having the dark brown oblong spots between the median nervules and the space next to them of a blue-black, marked with lunules of light blue atoms.

Expan.  $5\frac{1}{2}$  in. Hab. New Guinea.

In the Collections of W. W. Saunders and W. C. Hewitson.

This and the preceding species—which I have given myself the pleasure of naming after its energetic discoverer, Mr. Wallace—are from New Guinea, and form part of the finest collection of insects which has, perhaps, ever reached us from the East. Many species which have only been known to us in England by the figures in the French Voyages, and many more which have never before been seen in Europe, will now enrich our collections; and I am sure that all who derive pleasure from the sight of these beautiful things will join me in expressing our obligation to Mr. Wallace for the delight he has afforded us.



1874



1874

## PAPILIONIDÆ.

### PAPILIO. IV.

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#### P. SLATERI. 9.

*P. Slateri, Boisd. Mss.*

UPPERSIDE. Male brown. Anterior wing dark brown. Three spots of light blue within the cell. Beyond the cell, and diverging from it, nine linear longitudinal spots of the same colour, each spot placed between two nervules. Posterior wing rufous-brown, with an orange spot at the anal angle margined above with black.

UNDERSIDE, rufous-brown; one spot only within the cell; the said spot and the linear spots between the nervules, of a dirty white, and obscurely marked. Posterior wing with a white spot at the base, and some indistinct spots of white in pairs, between the median nervules.

Female differs in having the anterior wings much broader, more rounded at the apex, and without spots. The posterior wing with two rows of indistinct white spots, in pairs, between the median nervules near the outer margin. On the underside both wings are of a uniform rufous-brown, without a spot, except that the two rows of spots on the posterior wing, described above, are here united and form distinct hastate spots pointing inwards.

Expan.  $3\frac{9}{10}$  in. Hab. Borneo.

In the Collection of W. C. Hewitson.

This species is readily known from *P. Paradoxus*, to which it bears a considerable resemblance, by the singular orange spot at the anal angle of the posterior wing.



## P. ENCELADES. 10.

*P. Encelades, Boisd. Spec. Gen., page 376.*

UPPERSIDE. Male with both wings from the base to beyond the middle white; the rest brown, crossed by a row of indistinct white spots, parallel to and near the outer margin. Anterior wing with the nervules, the costal margin, four longitudinal lines within the cell, and part of the space between them, brown.

UNDERSIDE as above, except that it is lighter, that there is a line of brown in the cell of the posterior wing, that the nervures are more clearly marked, and the submarginal spots of both wings more distinct.

Expan.  $4\frac{2}{10}$  in. Hab. Celebes.

In the Collections of W. W. Saunders and W. C. Hewitson.

## P. DEUCALION. 11.

*P. Deucalion, Boisd. Spec. Gen., page 375.*

UPPERSIDE. Female dark brown, with numerous orange-yellow spots. Anterior wing yellow at the base. A small round spot near the base, nine or ten spots within the cell, and beyond the cell diverging from it, placed longitudinally between the nervures, a row of seven spots. The first (near the costal margin) small and round, the rest oblong and large (the last bifid), and two minute spots on the costal margin, all yellow.

Posterior wing with three large longitudinal spots near the base, followed by four smaller spots, which are again followed by four minute spots. Both wings with a submarginal row of small spots all yellow.

UNDERSIDE as above, except that there are three small round spots at the base of the posterior wing, and lunular spots on the outer margin.

Expan.  $4\frac{6}{10}$  in. Hab. Celebes.

In the Collections of W. W. Saunders and A. R. Wallace.

The three butterflies of the plate have not been figured before. *P. Encelades* and *Deucalion* are amongst the many rare and new species captured by Mr. Wallace, who says that he is "pretty sure" that they are sexes of one species.





## PAPILIONIDÆ.

### PAPILIO. V.

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#### PAPILIO XENARCHUS. 12.

UPPERSIDE. Male black. Anterior wing with the costal margin beyond its middle, a submarginal band of round and oval spots, and some minute spots on the outer margin, from its middle to the anal angle, all green-white. Posterior wing with a broad submarginal band of six carmine spots, oblong, except the spot near the anal angle, the outer margin spotted with white.

UNDERSIDE brown, the submarginal spots of the anterior wing very obscure. Posterior wing with two spots at the base, and a submarginal band of seven lunular and quadrate spots, all crimson, the margin as above, spotted with white.

Expan.  $3\frac{4}{10}$  in. Hab. Mexico.

In the Collection of W. C. Hewitson.

This beautiful species is nearly allied to *P. Choridamas*.

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#### PAPILIO GRATIANUS. 13.

UPPERSIDE black, the margins spotted with white. Anterior wing semitransparent, the base, the margins and nervures black: the middle of the costal margin with a large grey-green spot divided into three by the nervures, and marked with two white spots. Posterior wing crossed below the middle by a curved band of carmine spots, three near the anal angle large and united, the other three small and apart.

UNDERSIDE as above, except that there is no grey round the white spots on the inner margin of the anterior wing.

Expan.  $3\frac{8}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

## PAPILIO EPENETUS. 14, 15.

UPPERSIDE black, the margins with lunular pale yellow spots, unusually large on the posterior wing. Anterior wing lighter from the middle to the apex.

UNDERSIDE dark brown, both wings lighter brown from the middle to the outer margin. Anterior wing irrorated with white at the end of the cell: crossed from the end of the cell to the anal angle by a curved band of four pale yellow bifid spots. Posterior wing crossed below the middle by two approximating curved macular bands, each of seven spots—those forming the first band (nearest the base) triangular, carmine, and bordered with black; those of the second band, pale yellow.

Expan.  $3\frac{6}{10}$  in. Hab. Forest of Cinchona.

In the Collection of W. W. Saunders.

Nearly allied in form to *P. Idæus* (*P. Evander* of Hubner's Sammlung). In colour it bears considerable resemblance to *P. Oxynius*.



A detailed black and white illustration of a butterfly, likely a member of the Pieridae family, shown from a dorsal view with its wings fully spread. The wings are characterized by a complex network of dark veins and numerous small, dark spots and markings, particularly along the margins and in the lower portions of the wings. The body is dark and segmented, with visible antennae at the top. The overall appearance is that of a scientific or naturalistic drawing.



## PAPILIONIDÆ.

### PAPILIO. VI.

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#### PAPILIO EPYCIDES. 16.

UPPERSIDE. Male dark brown. The discoidal cell of the anterior wing grey: the posterior wing with the cell white: both traversed longitudinally by two lines of black, one of which is bifurcate: both wings traversed longitudinally between the nervures by rays of grey-white, followed closely by a transverse band of white spots, and on the posterior wing by a second submarginal band of similar white spots, the anal spot large and orange: the abdomen with four rows of white spots.

UNDERSIDE as above, except that it is paler, that the anterior wing is traversed at the apex by rays of white, and that the costal margin of the posterior wing is broadly rufous-brown.

Expan.  $3\frac{3}{10}$  inch. Hab. North India.

In the Collection of W. C. Hewitson.

This species has been known to me for several years, but until I have had an opportunity of examining several specimens I was unwilling to describe it. It is very nearly allied to *P. Agestor*, but differs from it in the colour and form of the posterior wing, and has besides an orange spot at its anal angle. The abdomen is *spotted* with white, not banded as in *P. Agestor*.

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#### PAPILIO NUMICUS. 17.

*Papilio Numicus*, Hopffer, *Schmet. der Ins. Samm. des Mus. Univers. zu Berlin*.

II. Heft. 1856.

UPPERSIDE. Male dark brown. Both wings crossed near the outer margin by a band of orange-yellow spots; on the anterior wing round, or nearly so, and eight in number; on the posterior wing seven, large and conical, the spot, at the anal angle bisected with black. Anterior wing with a spot of the same colour near the costal margin beyond the middle.

*First seen 1862.*



UNDERSIDE as above, except that the anterior wing has one or two small spots beyond the end of the cell, that the posterior wing has two spots of unequal size above the middle of the transverse band, and below and on each side of them spots of pale blue, five in number.

Expan.  $3\frac{8}{10}$  in. Hab. Cuba.

In the Collections of Dr. Kaden and W. C. Hewitson.

I have to regret that my time has been misspent in figuring a butterfly which has been so well represented before by M. Hopffer. I was not aware of it until my figure had been drawn; and ignorance is perhaps excusable, there having been a lapse of twenty years between the first and second parts of the work in which it is figured.

This species is very distinct, and has little resemblance to any other, but, as M. Hopffer remarks, comes nearest to *P. Philenor*. For the possession of this rare butterfly I am indebted to the kindness of Dr. Kaden, of Dresden.

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## PAPILIO ZALMOXIS. 18.

UPPERSIDE dull green, with the margins, the nervures, and rays between the nervures black. Anterior wing with the apex broadly black. Posterior wing with the outer margin broadly black, with a submarginal band of twelve green spots in pairs: the abdomen orange.

UNDERSIDE with the nervures and rays between them black. Anterior wing grey-white, with the apex broadly rufous-brown. Posterior wing rufous-brown; the base orange, with the nervures upon it very black: the cell, which is traversed longitudinally by two black lines, and a portion of the abdominal margin, white: the outer margin with a narrow border of black: the submarginal spots as above, but white.

Expan.  $6\frac{2}{10}$  in. Hab. Calabar.

In the Collection of W. C. Hewitson.

This very remarkable butterfly was received by Mr. Stevens in such a state of decomposition that the body, except the outer covering of the abdomen, was completely gone; and it is very probable that the green may have undergone a change of tint.



PAPILIO CRUCIATA  
PAPILIO CRUCIATA  
PAPILIO CRUCIATA



18. PAPILIO CRUCIATA

18. PAPILIO CRUCIATA

19. PAPILIO CRUCIATA

20. PAPILIO CRUCIATA

21. PAPILIO CRUCIATA

# PAPILIONIDÆ.

## PAPILIO VII.

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### PAPILIO UCALEGON. 19.

UPPERSIDE. Male dark brown. Both wings crossed, from near the middle of the anterior wing to the abdominal fold of the posterior wing, by an irregular broad band of white, intersected by black nervures. Anterior wing with a bifid white spot towards the apex.

UNDERSIDE as above, except that it is rufous brown, with the nervures, rays between them and traversing the cells, black. Posterior wing with the base rufous, marked by three black spots.

Exp.  $3\frac{9}{10}$  in. Hab. Old Calabar.

In the Collection of W. C. Hewitson.

Although at first sight this species seems, from its great resemblance in colour, to be intimately connected with *P. Cynorta* and *P. Zenobius*, it will be found, upon closer examination, to be more closely allied to *P. Adamastor* or *P. Latreillianus*. These species resemble each other in the form of the cell of the posterior wings.

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### PAPILIO VEIOVIS. 20.

UPPERSIDE grey-white, irrorated throughout with dark brown; the nervures and rays traversing the cells black. Anterior wing clouded from the middle to the apex with dark brown; rays of brown between the nervures near the outer margin; the cell crossed by a band of black. Posterior wing with the outer margin broadly brown, traversed by a submarginal band of oblong grey-white spots.

UNDERSIDE as above.

Exp. 5 in. Hab. Menado.

In the Collection of W. C. Hewitson.

Very distinct from any known butterfly; but more nearly allied to *P. Encelades* than to any other species.

## PAPILIO PORTHAON. 21, 22.

UPPERSIDE. Male black. Both wings crossed obliquely, from the costal margin (beyond the middle) of the anterior wing to near the abdominal fold of the posterior wing, by a band of pale green spots; both with a submarginal band of white spots. Anterior wing with two bands near the base; three curved linear bands and a white spot within the cell, and three minute white spots beyond the cell. Posterior wing with the abdominal fold and four small spots of white.

UNDERSIDE as above, except that the posterior wing is rufous brown, with a linear crimson spot (bordered on both sides with black) from the costal margin; crimson spots between the median nervules and at the end of the abdominal fold, and black spots between the nervules.

Exp.  $3\frac{4}{10}$  in. Hab. Zambesi.

In the Collection of W. C. Hewitson.

Near to *P. Policenes*: nearer still to *P. Anthæus*, from which, though much alike on the anterior wing, it is very different on the posterior wing. The *P. Evombar*, in the Collection of Dr. Boisduval, does not appear to me to be specifically distinct from *P. Anthæus*; the difference is very slight. For the species now figured I am indebted to the great kindness of Mrs. Dickinson, whose son took it on the Zambesi.





Wm. Hewitts in ac. et lith. 1866

M. & N. Hann. art. imp.

## PAPILIONIDÆ.

### PAPILIO. VIII.

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#### PAPILIO SALVINI. 23.

*Papilio Salvini*, Bates. *Entomologist's Monthly Magazine*, Vol. I. p. 4.

UPPERSIDE. Male pale green. Anterior wing with the costal and outer margins, a band at the end of the cell and a band beyond the middle which connects the costal and outer margins and thus forms a triangular spot, all black. Posterior wing crossed obliquely at the middle by an indistinct band of grey (seen through), touching, near the anal angle, a bifid spot of scarlet which is bordered below with black; outer margin black, with two lunular pale green spots: the tail black, bordered on its inner margin with white.

UNDERSIDE glossy white, tinted with green and lilac. Anterior wing as above, except that the outer margin is so narrow that the transverse band does not reach it. Posterior wing as above, except that the central band is dark brown; that there is a black band near the abdominal margin; that the outer margin is much narrower near the apex; the white lunular spots upon it are much larger; and that there is below each of them, and at the anal angle, a black lunular spot, traversed by a line of pale blue.

Exp.  $3\frac{6}{10}$  inches. Hab. Guatemala.

In the Collection of W. C. Hewitson.

For the possession of this beautiful and very distinct species, I am indebted to the generosity of Mr. Salvin. The rich collection of Dr. Boisduval has for some years contained an example of this species, but from what locality I do not know.



## PAPILIO ZALEUCUS. 24, 25.

UPPERSIDE. Male blue-black. Anterior wing paler towards the outer margin, with the nervures and rays between them black. Posterior wing with, near the outer margin, three large spots of white: the abdominal fold very large.

UNDERSIDE as above, except that it is paler; that the three spots of the posterior wing are much larger and form one spot, the central portion marked by a spot of black; and that there is a fourth white spot between them and the apex.

Female larger, much paler; the outer half of the posterior wing white; the nervures black; the outer margin with four large conical black spots; the underside grey-brown, with the margins, the nervures, the rays between them, and three longitudinal folds in the cell, black. Posterior wing with two minute black spots upon the white, and a spot of grey-white near the apex.

Exp. ♂  $4\frac{1}{2}$ , ♀ 5 inches. Hab. Burmah.

In the Collection of W. C. Hewitson.

Two examples only of this beautiful species have yet come to Europe; they were taken by Captain J. Smyth, of the 69th Regiment, after a day's chase; and are the only ones he saw during his residence in Burmah. They most nearly resemble *P. Varuna*, the male having the same large and remarkable folding of the hind wing.



# PAPILIONIDAE.

## PAPILIO IX.



W. H. Henshaw, Del. & Col. N. Y. 1880.

W. H. Henshaw, Del. & Col. N. Y. 1880.

20. PAPILIO XENIADES  
 108. PAPILIO HELIANTHUS 209. PAPILIO HYPERANTHUS

# PAPILIONIDÆ.

## PAPILIO IX.

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### PAPILIO XENIADES. 26.

*Papilio Xeniaades*, Hewitson. *Trans. Ent. Soc. 3 Ser. Vol. V. p. 561.*

UPPERSIDE. Male, black. Anterior wing with a white bipartate spot near the middle of the inner margin. Posterior wing rounded at the outer margin, dentate, crossed beyond the middle by a band of five detached carmine spots, the two outer spots smaller than the rest: lunules on the fringe, and three or four minute spots near the margin, white.

UNDERSIDE, brown, with the nervures black: the base of the anterior wing and three spots at the base of the posterior wing carmine; the spots of the transverse band nearly white.

Female, like the male, except that the white spot on the anterior wing is larger and tripartite, with (outside of it) some irrorations of white; that the outer margin of both wings is straighter, and that the white spots near the outer margin of the posterior wing are much larger.

Exp.  $3\frac{7}{10}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson.

Nearly related to *P. Euryleon* of Hewitson, *Exot. Butterflies*, Vol. 1, pl. 2, but differs from it in having the carmine spots of the posterior wing lower down, forming a macular band instead of a palmate spot, and in wanting the two white apical spots.

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### PAPILIO HELLANICHUS. 27, 28.

UPPERSIDE, dark brown. Both wings crossed at the middle by a common band of yellow, divided into spots by the nervures, each spot (with the exception of those nearest the costal margin) marked with orange at its lower extremity: both wings with a spot within the cell, the spot on the posterior wing forming part of the transverse band: both wings with a submarginal band of yellow spots: both with the fringe spotted with white.

UNDERSIDE, as above, except that the base of the posterior wing to the central band nearly is ochreous yellow; that the spots are paler, and those of the band much longer, and succeeded by a band of pale blue irrorated spots.

Exp.  $3\frac{1}{2}\frac{5}{10}$  inch. Hab. Uruguay.

In the Collection of R. Trimen, and very kindly lent to me by him.

## PAPILIO HYPsicLES. 29.

UPPERSIDE. Male, dark brown, tinted with blue beyond the band of the posterior wing. Both wings crossed beyond the middle by a band of white, divided into spots by the nervures. Posterior wing with a lunular spot above the anal angle and a submarginal band of lunular spots, orange.

UNDERSIDE, as above, except that the posterior wing has a lunular orange spot at the apex, that the spots of the submarginal band are larger than above, and that the white band is succeeded by a series of pale blue irrorated spots.

Female, like the male, except that it is of a more rufous-brown, and that the white band of the posterior wing is succeeded by a series of pale blue irrorated spots as on the underside of both sexes.

Exp.  $3\frac{6}{10}$  to 4 inch. Hab. New Hebrides.

In the Collection of W. C. Hewitson.

Nearly allied to *P. Capaneus* and to *P. Canopus*.





1891. 1892. 1893. 1894.

M. & N. Hanhart imp.

21. PAPILIO DARDANUS, MEXICANA. 22. PAPILIO DARDANUS  
30. PAPILIO DARDANUS, LANTHORNATA.

## PAPILIONIDÆ.

### PAPILIO X.

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#### PAPILIO WARSCEWICZII. 30.

*Papilio Warscewiczii*, Hopffer, *Stettiner Ent. Zeitung*, p. 28, 1866.

*Papilio Soratensis*, Salvin and Godman. *Annals and Mag. Nat. Hist.* 1868.

UPPERSIDE, black. Both wings crossed by a submarginal band of pale yellow spots, irrorated with black on the posterior wing. Anterior wing with a trifid white spot on the costal margin beyond the middle, a minute spot below this, and a similar spot near the anal angle. Posterior wing crossed by two bands above the marginal band of spots already described: the first band of six spots irrorated with pale blue; the other continuous of pale yellow irrorations.

UNDERSIDE, rufous-brown. Anterior wing black from the base to the submarginal band, the three apical spots of which form one large lilac spot: a quadrifid lilac spot on the costal margin, and between it and the inner margin a band of six spots irrorated with pale yellow, and a similar spot within the cell. Posterior wing with the base of the costal margin, a small spot within the cell, a broad band near the middle, and large conical spots on the outer margin, all lilac: an orange spot at the anal angle bordered above and on its inner side with black irrorated with blue.

Exp.  $4\frac{1}{10}$  inch. Hab. Bolivia (Apolobamba).

In the Collection of Messrs. Salvin and Godman.

In the examples described by Hopffer and Messrs. Salvin and Godman, a second band of pale yellow spots crosses the anterior wing, of which the two small spots indicated on my figure form part.

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#### PAPILIO EUTERPINUS. 31.

*Papilio Euterpinus*, Salvin and Godman. *Annals and Mag. Nat. Hist.* 1868.

UPPERSIDE, dark brown. Anterior wing crossed before the middle by an oblique broad band of brick-red, commencing in the cell (which it nearly fills), and continued (divided into three portions by the nervures) to nearly the outer margin: a small spot of the same colour nearer the anal angle. Posterior wing irrorated with pale yellow.

*Fig. 1. 1868.*



UNDERSIDE, as above, except that the apical half of the anterior wing and the whole of the posterior wing are much paler; that there is a spot of white near the middle of the costal margin of the anterior wing and a brick-red spot near it not on the upperside.

Exp.  $3\frac{9}{10}$  inch. Hab. Ecuador.

In the Collection of Messrs. Salvin and Godman.

### PAPILIO XANTHOPLEURA. 32, 33.

*Papilio Xanthopleura*, Salvin and Godman. *Annals and Mag. Nat. Hist.* 1868.

UPPERSIDE, black. Anterior wing irrorated with blue, forming longitudinal bands between the nervures. Posterior wing with a large palmate space of green-blue below the middle divided into six parts by the nervures, one part within the cell: a submarginal band of lunular spots (except the spot nearest the apex, which is white) of the same colour.

UNDERSIDE, brown; darker towards the outer margin of the posterior wing, rufous on the apical half of the anterior wing and divided by the nervures and lines between them, which are black. Anterior wing with pale yellow spots on both sides of the disco-cellular nervules, and near the anal angle nine spots of grey, six of which are near the outer margin, in pairs. Posterior wing with a submarginal band of seven irregular carmine spots and a white spot near the anal angle.

Exp.  $5\frac{1}{2}$  inch. Hab. Eastern Peru.

In the Collection of Messrs. Salvin and Godman.

This species, which is nearly allied to *P. Corebus* of Felder, as well as to *P. Birchallii* of Hewitson, seems sufficiently distinct from both of them, without taking into consideration the remarkable pale yellow spot, having the appearance of some solid material, which occupies nearly the whole length of the abdomen on both sides.



# PAPILIONIDAE

## PAPILIO XI



M.H. Hart, sculp.

34 PAPILIO DAREUS

35 36 PAPILIO PHILETA

37 PAPILIO PHALAEUS



ART. 10. 1722.

1722.



ART. 10. 1722.

## PAPILIONIDÆ.

### PAPILIO XI. XII.

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#### PAPILIO DARES. 34.

*P. Dares, Hewitson. Trans. Ent. Soc. Vol. V. Third Ser. p. 561, 1867.*

UPPERSIDE. Female, black; the outer margin with white lunules. Anterior wing with a small white spot beyond the middle. Posterior wing dentated, the dentations long: crossed beyond the middle by two macular bands of crowded carmine spots: the first band of six oval spots, the first of which, near the costal margin is smaller, the last, at the anal angle, is larger than the rest: the second band of five spots, three of which, nearest the anal angle, are lunular.

UNDERSIDE as above, except that the carmine spots of the first band of the posterior wing are smaller.

Exp.  $3\frac{7}{10}$  inch. Hab. Nicaragua.

In the Collection of W. C. Hewitson.

Before I had received that sex, I believed this to be the female of *P. Photinus* of Doubleday; I now see, however, that it is very different. The carmine spots of the first band cross the wing in a double curve, and those near the margin, instead of being triangularly lunate, are very slightly so.

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#### PAPILIO PHILETAS. 35, 36.

*P. Philetas, Hewitson. Trans. Ent. Soc. p. 31, 1869.*

UPPERSIDE. Male, dark green: the fringe with lunular white spots, broad and conspicuous on the posterior wing. Anterior wing crossed beyond the middle by a furcate band of green-yellow spots, which commences in two places near the costal margin, and uniting at the second disco-cellular nervule, is continued in five hastate spots to the anal angle. Posterior wing with a submarginal band of pale green spots, the first of which at the costal margin is linear.

UNDERSIDE. Anterior wing as above, except that there are two rays of green from the base, that the spots of the band are much larger, and that the whole of the wing from the band to the apex is irrorated with green. Posterior wing with the basal half thickly irrorated with green, the nervures through it black: the outer half of the wing dark green, first marked by pale green striæ: crossed below these by a band of seven scarlet spots, with here and there between them irrorations of white; these spots are surrounded with purple, and followed by a second band of six yellow spots: the lunular spots on the margin broader than above. The abdomen white.

Female does not differ from the male, except in having the abdomen dark green.

Exp.  $4\frac{3}{10}$  inch. Hab. Ecuador.

In the Collections of W. W. Saunders and W. C. Hewitson.

It will be seen at once that this very beautiful species belongs to that section of *Papilio* which contains *Belus* and *Crassus*.

## PAPILIO PHALÆCUS. 37.

*P. Phalæcus*, Hewitson. *Trans. Ent. Soc.* p. 32, 1869.

UPPERSIDE. Male, very dark green, apparently black out of a bright light, suffused with purple towards the outer margin of the posterior wing: the fringe with white lunules, deeply indented on the posterior wing, which has one broad tail. Both wings crossed beyond the middle by a common band of white tinted with yellow, divided by the nervures, and so thickly irrorated with black on the anterior wing and the lower part of the posterior wing, as to appear grey: this band commences near the costal margin of the anterior wing by three spots, which form a triangle: near the fifth spot on its inner border there is a small spot of the same colour (more conspicuous in the female). Posterior wing with a submarginal band of six or seven carmine lunular spots, some of which are scarcely visible.

UNDERSIDE as above, except that the carmine spots are more distinct.

Female does not differ from the male, except in its greater size.

Exp.  $3\frac{6}{10}$  inch. Hab. Ecuador.

In the Collections of W. W. Saunders and W. C. Hewitson.

Most nearly allied to *P. Ascanius*.

## PAPILIO HIPPOCOON. 38, 39, 40, 41.

*Papilio Hippocoon* Fabricius *Ent. Syst. III.* p. 38.

*P. Dionysos* Doubleday & Hewitson, *Gen. Diur. Lep.* Plate 3, fig. 4.

I have figured the species of the plate in confirmation of an opinion expressed by Mr. Trimen, which I have myself long held, that *P. Hippocoon* and *P. Dionysos* are one species, now confirmed beyond a doubt by the very interesting intermediate varieties. Fig. 38 represents *P. Hippocoon*. Fig. 41, *P. Dyonisos*. Figs. 39 and 40, two unnamed varieties. I cannot, at present, associate with them either *P. Cenea*, of Stoll, or *P. Triphonius*, of Westwood, although the latter very much resembles them. Both of these species seem to me fitted for swifter flight. That the butterflies now figured are all females there cannot, I think, be a doubt; \* but that they are the females of *P. Merope*, as suggested by Mr. Trimen, I do not for one moment believe. *P. Merope*, of Madagascar, has a female the exact image of itself; and it would require a stretch of the imagination of which I am incapable to believe that the *P. Merope* of the mainland, having no specific difference, indulges in a whole harem of females, differing as widely from it as any other species in the genus. The fact that *P. Merope*, when received from the Continent, is always of the male sex, and the *Cenea* groupe all females, is very slender evidence. We receive constantly a large number of butterflies of which we know but one sex. Nearly all the many species of *Catagramma* are without their females. That the male *Merope* has been seen chasing the female *Cenea* is evidence still more slight, when butterflies of widely differing families, as recorded by Mr. Algernon Chapman, in the *Entomological Magazine* for this month, may be discovered in copulation. It is true, that we have of late been introduced to some strange anomalies in the sexes, but to none which bear comparison to this. In the orange-banded *Epicalias*, there is no resemblance certainly between the male and female, either in colour or the arrangement of the spots; but there is no total disagreement in form. In the two species of *Papilio* which have lately been united, *Torquatus* and *Caudius*, and *Argentus* and *Torquatinus*, though much unlike each other, there is quite sufficient resemblance not to shock one's notions of propriety.

Mr. Trimen, in the paper in the transactions of the Linnean Society in which he discusses this subject, and details the biography of *P. Merope*, from its first creation in Madagascar to its subsequent wonderful polymorphosis on the Continent, says that "entomologists, no less than naturalists generally, appeared content with a child-like wonder at this and kindred facts, and let them pass as things inscrutable," until Mr. Darwin gave us a "rational explanation of these phenomena." I must say, and I hope that I may do so without giving offence to any one, that I prefer the child-like attitude of former naturalists to the childish guesses of those of the Darwinian school.

\* Mr. Trimen, if I understand him right, gives this (may I call it a dream) as a supposition only. Mr. Bates, in his address as President of the Entomological Society, speaks of it as an established fact.





# PAPILIONIDAE.

PAPILIO



W. H. Edwards, Del. et Lith. N.Y.

1880 Edwards, Del. et Lith. N.Y.

42. PAPILIO EURPYI

44. PAPILIO EURPYI

# PAPILIONIDÆ.

## PAPILIO. XIII.

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### PAPILIO KIRBYI. 42.

*Papilio Kirbyi.* Hewitson. *Ent. Mon. Mag.*, p. 146 (1872).

UPPERSIDE. Male dark brown. Both wings crossed by a central, narrow, equal band of white, commencing near the apex of the anterior wing, where it is straight, by an isolated spot, and ending near the middle of the inner margin of the posterior wing, where it is curved. Posterior wing with a long tail, white at the end: a submarginal series of indistinct white linear spots.

UNDERSIDE as above, except that the posterior wing has a black spot bordered above with carmine near the costal margin above and touching the central band, a carmine spot marked with black within and at the end of the cell, a spot of the same colour below this, a lunular carmine spot bordered above with white at the end of the central white band, and another spot of the same colour on the abdominal margin.

Exp.  $3\frac{1}{2}$  inch. Hab. Lagos.

In the Collection of W. C. Hewitson.

This species, so unlike anything African except the following, was kindly presented to my collection by Mr. George Semper, of Altona.

## PAPILIO ILLYRIS. 43, 44.

*Papilio Illyris.* Hewitson. *Ent. Mon. Mag.*, p. 232 (1873).

UPPERSIDE. Male dark brown. Both wings crossed, from the costal margin of the anterior wing beyond the cell to near the inner margin of the posterior wing before its middle, by an equal, continuous, pale yellow band, the nervures which divide it scarcely seen. Posterior wing with a long tail: dentated and traversed by a submarginal series of five green-yellow spots, the two spots nearest the base of the tails large.

UNDERSIDE as above, except that it is paler with the base of the anterior wing and the inner margin of the posterior wing ochreous-yellow: that the posterior wing has a black spot bordered above with carmine near the costal margin above and touching the central band: that there is a carmine spot marked with black at the end of the cell and two linear carmine spots between it and the inner margin and that it is crossed by a series of large black spots beyond the middle and by a submarginal series of linear black spots irrorated with lilac-white.

Exp.  $3\frac{1}{2}$  inch. Hab. Gold Coast. (Rogers.)

In the Collection of W. C. Hewitson.



# PAPILIONIDÆ.

## PAPILIO XIV



W. C. Hecks, 1888.

M. H. Harbort, 1888.

45 PAPILIO CHARICLES

46 PAPILIO CHARICLES

# PAPILIONIDÆ.

## PAPILIO. XIV.

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### PAPILIO CHARICLES. 45.

UPPERSIDE. Female dark brown. Anterior wing semi-transparent brown-white, palest below the median nervure: the margins, the base (which is marked by a triangular carmine spot), longitudinal rays in the cell, the nervures and lines between them dark brown. Posterior wing marked before the middle by five white spots—one (the largest) in the cell, one between it and the costal margin, two between it and the inner margin, and one (the fifth) below the cell: the inner margin (which is marked by a black spot) and a series of six spots on the outer margin all dull carmine: the outer margin dentate, deeply sinuated between the nervures; the tail spatulate, its outer half white, tinted with carmine.

UNDERSIDE as above, except that the posterior wing has four red spots at the base and seven white spots before the middle.

Exp. 5 inches. Hab. Andaman Islands.

In the Collection of W. C. Hewitson.

This singular species, although reminding one at first sight of *P. Coon*, is so like *P. Memnon* (var. *Achates*, Cramer) that but for the long and narrow posterior wing it might easily be mistaken for that species.

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### PAPILIO ANTONIO. 46.

*Papilio Antonio, Semper MS.*

UPPERSIDE. Male dark brown. Anterior wing with the costal margin much curved: marked on the inner margin towards the anal angle by a triangular white spot. Posterior wing with a broad spatulate tail: marked near the apex from the costal margin to the third branch of the median nervure by a large white spot divided by the nervures, which are of the same colour, into four parts, the smallest of which is within the cell: the outer margin with lunular white spots between the nervures.

UNDERSIDE as above, except that the anterior wing has longitudinal rays of white in the cell, and that the nervures near the outer margin and lines between them, which

are more distinct, are white: that the posterior wing has an oblong white spot at the middle of the inner margin, and that it is crossed near the outer margin by a double band connected at the nervures and thus forming a chain of oblong spots of the same colour as the rest of the wing: the first band linear and pale blue, the second composed of quadrate ochreous spots, ending at the anal angle in a cordate orange spot marked by a spot of black.

Exp.  $4\frac{1}{2}$  inch. Hab. Philippine Islands. (Mindanao, Semper.)

In the Collection of W. C. Hewitson.

#### PAPILIO BIMACULATUS. 47.

UPPERSIDE. Female dark brown, paler near the apex of the anterior wing. Anterior wing with two central oval pale yellow spots. Posterior wing crossed transversely before the middle by a broad hexafid band of carmine dentated on its outer margin, bordered inwardly with orange, and a small spot of the same colour on the costal margin irrorated with brown, the abdominal fold, touching the band, ochreous, the lunular spots on the outer margin carmine.

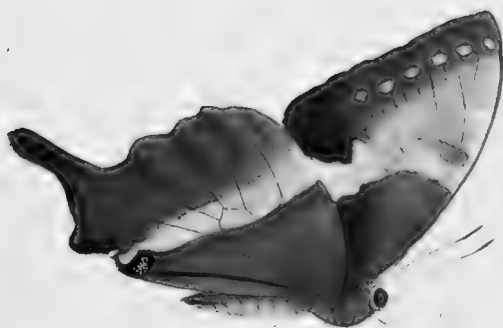
UNDERSIDE as above, except that it is of a paler brown, and that the transverse band of the posterior wing is almost white.

Exp.  $3\frac{1}{10}$  inch. Hab. Ecuador. (Buckley.)

In the Collection of W. C. Hewitson.







# PAPILIONIDÆ.

## PAPILIO XV.

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### PAPILIO XYNIAS.

*P. Xynias.* Hewitson, *Entom. Mon. Mag.* 1875, page 153.

UPPERSIDE. Male dark brown. Anterior wing with a large pale green bifid square spot on the middle of the inner margin. Posterior wing dentate with a short linear tail in continuation of the third median nervure: three (sometimes one or two only) oval carmine spots between the inner margin and the third median nervure: a submarginal series of four narrow lunular green spots.

UNDERSIDE as above except that there is a carmine spot at the base of the anterior wing and three similar spots at the base of the posterior wing and that there are five carmine spots on the posterior wing and nearer the outer margin.

Exp.  $3\frac{9}{10}$  inch. Hab. Bolivia. (Buckley.)

In the Collection of W. C. Hewitson.

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### PAPILIO MANGOURA.

*P. Mangoura.* Hewitson, *Entom. Mon. Mag.* 1875, page 226.

UPPERSIDE black. Both wings crossed at the middle by a continuous grey-blue band broadest at the middle, commencing at the costal margin of the anterior wing where it is furcate and ending near the anal angle of the posterior wing where it is also furcate, its outer border dentate on the anterior wing, sinuate between each pair

G G

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of nervures on the posterior wing; both wings spotted with white on the outer margins. Anterior wing with a submarginal series of white spots some of which are tinted with blue. Posterior wing tailed the end of the tail marked by a small white spot, a small spot irrorated with white above the anal angle.

Exp.  $3\frac{4}{10}$  inch. Hab. Madagascar. (Crossley.)

In the Collection of Henley Grose Smith.

This species, although resembling the Nireus group in colour, comes next to *P. Lalandii*.



# PIERIDÆ.

PIERIS. I.



W. C. Hewson del. et lith. 1861

Printed by H. L. G. & Co. New York

1 2 PIERIS AGOSTINA

3 4 PIERIS NERA

5 6 PIERIS MALENKA.

7 PIERIS LORENA

## PIERIDÆ.

### PIERIS I.

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#### PIERIS AGOSTINA. 1, 2.

UPPERSIDE cream colour, posterior wing more tinted than the other. Anterior wing with the costal margin grey. The apex, to beyond the middle of the outer margin, black, marked with a row of five white spots. Posterior wing with the border of the underside seen through.

UNDERSIDE. Anterior wing with all the nervures broadly black. Posterior wing of a rich orange yellow, with a submarginal line of black and marginal spots of the same colour.

Expan.  $2\frac{8}{10}$  in. Hab. East India.

In the Collections of W. W. Saunders and W. C. Hewitson.

This beautiful butterfly is nearly allied to *P. Eucharis* of Drury and Cramer.

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#### PIERIS NERA. 3, 4.

UPPERSIDE. Anterior wing cream-colour, the apex, to below the middle of the outer margin, black. The inner margin of the black dentated. Posterior wing greenish yellow with triangular spots of black on the outer margin, largest near the anal angle.

UNDERSIDE. Anterior wing with the black of the apex marked with several linear spots of dirty white. Posterior wing with a spot at the end of the cell, two spots on the upper margin, and a broad outer margin brown. The outer margin marked with four arrow-headed spots.

Exp.  $2\frac{2}{10}$  in. Hab. Quito.

In the Collection of W. C. Hewitson.

*Pieris Nera* is most nearly allied to *P. Hirlanda* of Stoll, and *P. Helvia* of Humboldt and Bonpland's work, which I believe to be one and the same species. In the marking of the underside it is like *P. Gidica* of Godart.

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#### PIERIS MALENKA. 5, 6.

UPPERSIDE cream colour. Anterior wing with the costal margin black. The apex black to the middle of the outer margin, the inner margin of the black deeply sinuated below the middle. Posterior wing with a narrow black line round the outer margin. The marks of the underside seen through.

UNDERSIDE white. The anterior wing as above. The posterior wing with a narrow band of black from the base to the middle of the upper margin followed by a band of yellow, and again by a broader band of black which encloses an oval yellow spot near the apex. The middle of the wing crossed transversely from the inner margin to a little beyond the centre by bands of orange and black. The outer margin with a large spot at the anal angle and two triangular spots near the middle light brown.

FEMALE. UPPERSIDE. Anterior wing black with a band of orange on the inner margin from the base to the anal angle; a second band of orange from the base to the centre of the wing, and between it and the outer margin two spots of orange-yellow; a third irregular band of yellow obliquely across the wing beyond the middle. The apex rufous. Posterior wing orange, with two transverse bands, and the outer margin (which is deeply dentated on its inner side) black.

UNDERSIDE as above.

Exp. ♂  $2\frac{2}{10}$  ♀  $2\frac{6}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

Pieris Malenka is nearly allied to *P. Pyrrha*. The males are alike, except in size. The females, which are totally unlike the males in form as well as in colour (resembling the *Heliconidæ*), differ considerably from each other.

#### PIERIS LORENA. 7.

UPPERSIDE white. Anterior wing with the apical half black, the black crossed obliquely in the middle by a band of white. Costal margin black. Posterior wing with the outer margin and a large triangular spot upon it at the anal angle black.

UNDERSIDE. Anterior wing as above. Posterior wing with the costal margin at the base black, crossed a little below the base by a transverse band of black, broad near the base, where it is marked by a band of orange, but gradually becoming narrower towards the anal angle, where it is forked and incloses an oval spot of white. The triangular spot of the upperside is here much larger.

Exp.  $2\frac{8}{10}$ . Hab. Quito.

In the Collection of W. C. Hewitson.

The only specimen of this remarkable butterfly which I have seen is the one in my own Collection. It is most nearly allied to *P. Pyrrha* and *P. Melenka*.





# *Colletes* *Form*



*Colletes*

*Form*

THE  
 NATIONAL  
 MUSEUM  
 WASHINGTON, D. C.

## PIERIDÆ.

### PIERIS II.

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#### PIERIS PALLENE. 8, 9.

UPPERSIDE silky-white, slightly tinted with lilac. Anterior wing with the base light yellow, the costal margin lilac, the apex and outer margin black its innerside deeply sinuated and dentated.

UNDERSIDE. Anterior wing with the base yellow, the costal margin black, and a large triangular spot of black near to, but below, the apex. Posterior wing with four minute spots half way between the lower end of the cell and the outer margin.

Expan.  $1\frac{9}{10}$  inch. Hab. Australia.

In the Collection of W. C. Hewitson.

Nearly allied to P. Aripa of Boisduval.

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#### PIERIS PADUSA. 10, 11.

UPPERSIDE white, the base of the anterior wing and the outer margin of the posterior tinted with yellow. Anterior wing with the costal margin lilac, the apex and outer margin black its innerside deeply sinuated and dentated.

UNDERSIDE. Anterior wing with the base yellow, the costal margin slightly brown, and a square black spot near the apex.

Expan.  $1\frac{8}{10}$  in. Hab. Australia.

In the Collection of W. W. Saunders.

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#### PIERIS PARTHIA. 12, 13.

UPPERSIDE white. Anterior wing slightly tinted with yellow darkest at the base, the costal margin brown, the apex and outer margin black its inner edge deeply sinuated and dentated. Posterior wing tinted with lilac and yellow.

UNDERSIDE with the base yellow, the costal margin and the apex light rufous-brown, where black above. Posterior wing rufous-brown, undulated throughout by fine transverse lines of white, crossed below the middle by an irregular indistinct band of darker colour.

Expan.  $1\frac{7}{10}$  in. Hab. Australia.

In the Collection of W. C. Hewitson.

Some examples are without the lower part of the black margin of the anterior wing and others have much less colour on the underside of the posterior wing.

PIERIS PANDOSIA. 14.

UPPERSIDE white, the outer margin broadly bordered with black its inner edge deeply sinuated on the anterior wing. Anterior wing with the costal margin, from the base to the middle, broadly brown.

UNDERSIDE as above, except that there is a white line through the brown at the base of the anterior wing, and a rufous line through the black margin of the posterior wing.

Expan.  $1\frac{7}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

Nearly allied to *P. Marana* of Doubleday, and *P. Calydonia* of Boisduval.

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PIERIS PELORIA. 15, 16.

UPPERSIDE white, slightly tinted with yellow, the body and the base of the wings very black. Anterior wing with the costal margin and the nervures broadly brown. Posterior wing with nervures black, the nervules tinted with lilac, the end of each marked with a large spot of brown upon the outer margin.

UNDERSIDE the same, except that the posterior wing is yellow, the nervules broadly brown, and that the base is marked with orange.

Expan.  $1\frac{7}{10}$  in. Hab. Chinese Tartary.

In the Collections of W. W. Saunders and W. C. Hewitson.

This species, except that the nervures are different in their arrangement, and the antennæ longer, has more the appearance of a *Parnassius* than of a *Pieris*, and would probably be more naturally placed in that genus. It is at any rate an admirable link by which to connect the two genera. It flies at a great elevation on the mountains of Chinese Tartary.



PIERIDÆ.  
PIERIS II



W. C. Cresson, del. et lith. 1860

Specimens of the same species

17 18 PIERIS CARDENA  
19 PIERIS CARDENA 20 21 22 PIERIS CARDENA

## PIERIDÆ.

### PIERIS. III.

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#### PIERIS CARDENA. 17, 18.

UPPERSIDE white. Anterior wing, with the apical half black deeply indented inwardly; one of the indentations inclosed so as to form a cordate spot. A band of three white spots across the apex. Posterior wing with black hastate marks on the outer margin at the termination of the nervures; connected and forming a continuous band near the anal angle.

UNDERSIDE. Anterior wing as above, except that the apex, beyond the band of white spots, is grey. Posterior wing yellow; the nervures distinct and black; the outer margin broadly grey, bordered inwardly by a zigzag black line.

Expan.  $2\frac{7}{10}$  in. Hab. Borneo.

In the Collection of W. C. Hewitson.

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#### PIERIS TEMENA. 19.

UPPERSIDE. Male white. The nervures and base of the wings grey. Anterior wing, with the apex, the costal margin near it, the outer margin to the anal angle, and the nervures as they approach the outer margin, black. Posterior wing near the outer margin broadly grey. The margin and the nervures near it black.

UNDERSIDE. Anterior wing black, with numerous white spots. Two longitudinal spots from the base to the middle, a small spot between them and the inner margin grey. A band of three oblong spots near the costal margin beyond the middle, and a submarginal band of seven spots (the middle one minute); those near the apex yellow, the others white. Posterior wing orange-yellow. The costal margin at its base yellow. An oblong spot of carmine near the costal margin, from its base to beyond its middle, bordered with grey; the outer margin broadly black, dentated inwardly, traversed by a band of orange-yellow spots.

Expan.  $2\frac{4}{10}$  in. Hab. Lombok.

In the Collections of W. W. Saunders and W. C. Hewitson.

*Publ. Jan. 1 1861*

PIERIS ARUNA. 20, 21, 22.

♂ *Pieris Aruna*, *Boisd.* }  
 ♀ *Pieris Bajura*, *Boisd.* } *Faune de l'Océan Pacifique.*

UPPERSIDE. Male bright orange. Anterior wing, with the costal margin, the apex (broadly), the outer margin to the anal angle nearly, and the nervures where they touch it, black. Posterior wing, with the outer margin and the nervures as they approach it, black.

UNDERSIDE black. Anterior wing with an indistinct spot of white at the end of the cell. Irrorated with white near the inner margin. Posterior wing purple-black, the base yellow. A small spot near the base, and a large one towards the middle, scarlet.

Female black. The base of the wings (on the posterior wing, nearly to the middle) light yellow. Anterior wing with a quadrate white spot chiefly within the cell. Underside with the anterior wing as above, except that the base is black, and there is a transverse band of very indistinct white spots beyond the middle. Posterior wing as in the male, except that the large central spot is yellow.

Expan.  $3\frac{4}{10}$  in. Hab. New Guinea.

In the Collections of W. W. Saunders and A. R. Wallace.

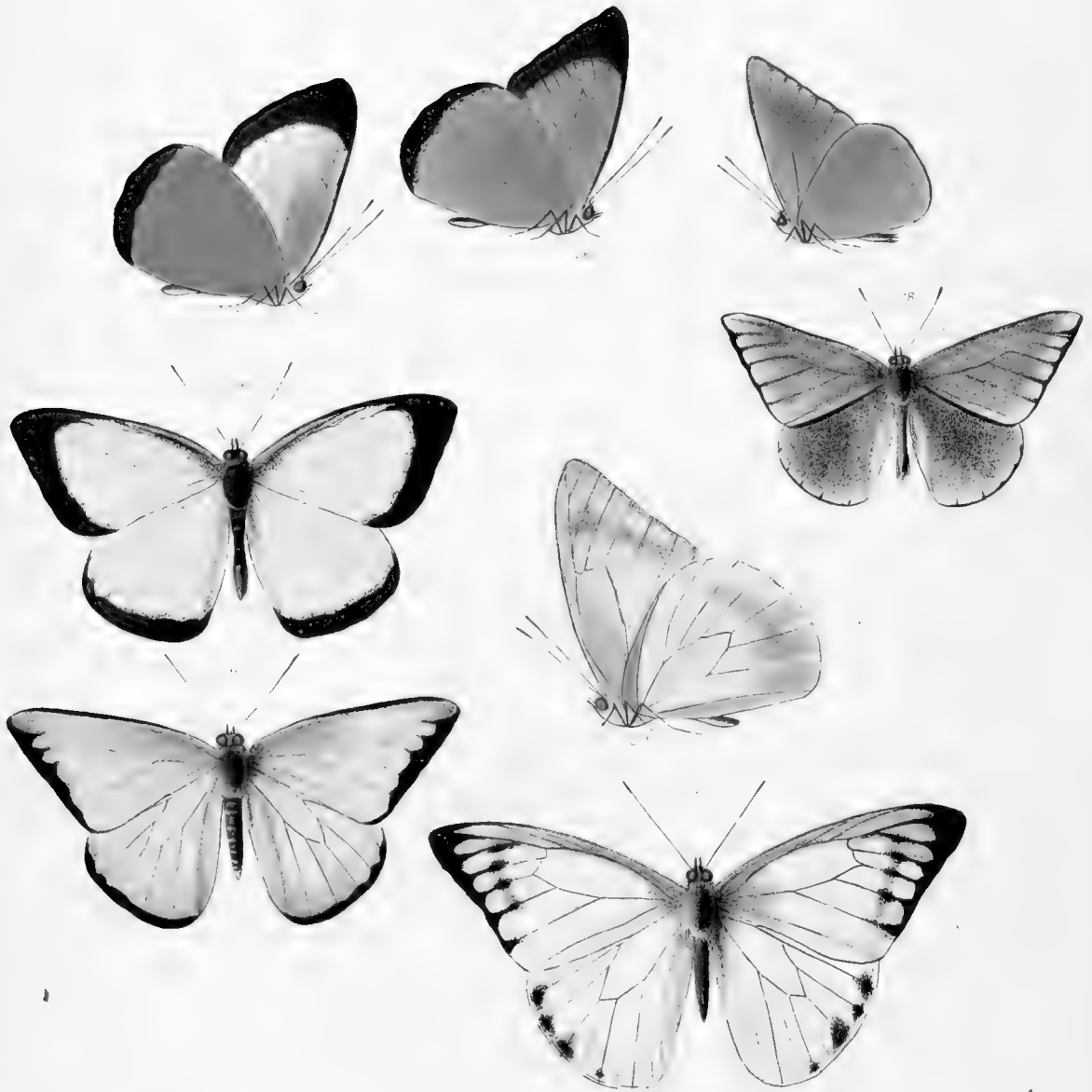
The very beautiful examples from which the figures in the Plate are copied, have been kindly lent me from the Collection of Mr. Wallace.





# PIERIS

## PIERIS IV



London: Smith 1861

Printed by Hullmandel & Walton

26 16 PIERIS CYCINNA  
24 25 PIERIS OCINA

27 28 PIERIS ELIADA  
29 30 PIERIS CELESTINA

## PIERIDÆ.

### PIERIS. IV.

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#### PIERIS CONCINNA. 23, 26.

UPPERSIDE. Male glaucous. Both wings with the outer margins black; broadest on the anterior wing and dentated inwardly. Anterior wing with the costal margin near the apex also black.

UNDERSIDE. Anterior wing light green-yellow, clouded, the outer margin broadly brown. Posterior wing bright yellow, the outer margin brown.

Expan.  $2\frac{1}{2}$  in. Hab. New Guinea.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### PIERIS OCINA. 24, 25.

UPPERSIDE. Female white. The outer margins black. Anterior wing with the outer margin broadly black. The costal margin near the base grey, towards the apex black.

UNDERSIDE. Anterior wing as above, but slightly tinted with yellow. The posterior wing bright orange.

Expan.  $2\frac{1}{2}$  in. Hab. New Guinea.

In the Collections of W. W. Saunders and W. C. Hewitson.

It is very probable that this butterfly, which I have preferred at present to consider as a distinct species, is the female of *P. Concinna*. The only reason for not placing it in that position is that the colour of the underside is much more vivid, a character not in accordance with the female of any other species of *Pieris* with which I am acquainted.

PIERIS ELIADA. 27, 28.

UPPERSIDE. Male glaucous. The base of the anterior wing and the whole surface of the posterior wing irrorated with black. Anterior wing with the outer margin narrowly bordered with black. Posterior wing with a minute black spot at the end of each nervure where it touches the outer margin.

UNDERSIDE. Anterior wing grey-green, the apex and part of the outer margin yellow. Posterior wing yellow.

Expan. 2 in. Hab. Batchian.

In the Collections of W. W. Saunders and W. C. Hewitson.

This is probably the male of Cramer's *P. Liberia*, but for the reason which I have stated above I have preferred to keep it distinct for the present. Mr. Wallace, on his return home, will very likely be able to decide the question.

PIERIS CELESTINA. 29, 30.

*Pieris Celestina.* Boisdu. *Faune de l'Océanie*, p. 46. *Species Gen.* p. 484.

UPPERSIDE. Female grey-blue. Anterior wing with the apex and part of the outer margin black dentated inwardly and preceded by three or four black spots; the nervures connecting the said spots with the outer margin also black. Posterior wing with the outer margin spotted with black at the end of the nervures between the apex and the middle of the wing.

UNDERSIDE pink-white. The base of the anterior wing, and the abdominal fold of the posterior wing yellow. Both wings crossed beyond the middle by an indistinct band of grey-brown. Posterior wing with the base of the costal margin orange.

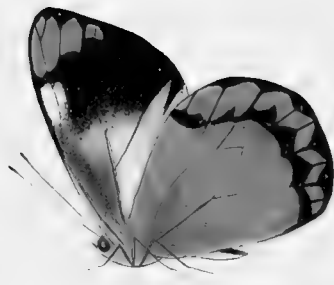
Expan. 3 in. Hab. New Guinea.

In the Collections of W. W. Saunders and W. C. Hewitson.

Dr. Felder, in his "*Lepidopterorum Amboinensium*," has described another species closely allied to those of the plate, but with the underside of the posterior wing of a uniform brown.



PIERIS 1936.  
PIERIS 7



PIERIS 1936.  
PIERIS 7

Printed by Hullmandel & Walton

PIERIS THEMIS  
PIERIS NEPHELE

54 PIERIS DURIS  
31 56 PIERIS ECHIDNA

## PIERIDÆ.

### PIERIS. V.

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#### PIERIS THEMIS. 31, 32.

*Pieris Themis.* Boisd. MS.

UPPERSIDE. Male white. The apical half of the anterior wing, and the outer margin of the posterior wing broadly black—intersected with ill-defined, indistinct, oval white spots. Anterior wing with the costal margin dark grey.

UNDERSIDE as above, except that the black of the margins is much more defined, and the white submarginal spots large and distinct in their outline. That the anterior wing has, besides, a spot of white within the others; that the posterior wing is of a bright yellow, and that the oval spot nearest the apex is slightly tinted with yellow.

Expan. 3 in. Hab. Philippine Islands.

In the Collections of W. C. Hewitson and Dr. Boisduval.

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#### PIERIS NEPHELE. 33.

*Pieris Nephee.* Boisd. MS.

UPPERSIDE. Male. Anterior wing white with its inner margin yellow. The costal and outer margins broadly black, marked near the apex with an oblong white spot. Posterior wing orange-yellow with the outer margin broadly black.

UNDERSIDE as above, except that the margins are paler, and the spot at the apex of the anterior wing yellow.

Female differs from the male greatly in the form of the anterior wing. On the upperside both wings are white with the outer margins very broadly black; the nervures where they join the margin also black. On the underside it does not differ from the male in colour; the spot near the apex of the anterior wing is larger and bifid. Both wings have some submarginal spots of grey-white.

Expan.  $2\frac{3}{10}$  in. Hab. Philippine Islands.

In the Collections of W. W. Saunders and W. C. Hewitson.

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PIERIS DURIS. 34.

UPPERSIDE. Male white, anterior wing with the costal and outer margins narrowly bordered with black except at the apex, where it is wider. Posterior wing with the outer margin slightly black.

UNDERSIDE black. Anterior wing with the base and a band near the apex (divided into five by the nervures) yellow irrorated with black. Posterior wing with the centre red-brown, an oval spot of scarlet near the base, and a zig-zag band of brick-red parallel to the outer margin.

Expan. 3 in. Hab. Ceram.

In the Collections of W. W. Saunders and W. C. Hewitson.

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PIERIS ECHIDNA. 35, 36.

UPPERSIDE. Male white. Anterior wing with the costal margin black, the outer margin black dentated inwardly at the apex. Posterior wing with the outer margin black bordered inwardly with grey.

UNDERSIDE. Anterior wing with the basal half grey, the cell tinted with yellow. The outer half black with a spot of white near the costal margin beyond the middle, and a band of bright yellow near the apex divided into five by the nervures which are black. Posterior wing green-yellow, the outer margin broadly black traversed by a zig-zag band of bright yellow divided into seven by the nervures.

Expan.  $2\frac{8}{10}$  in. Hab. Ceram.

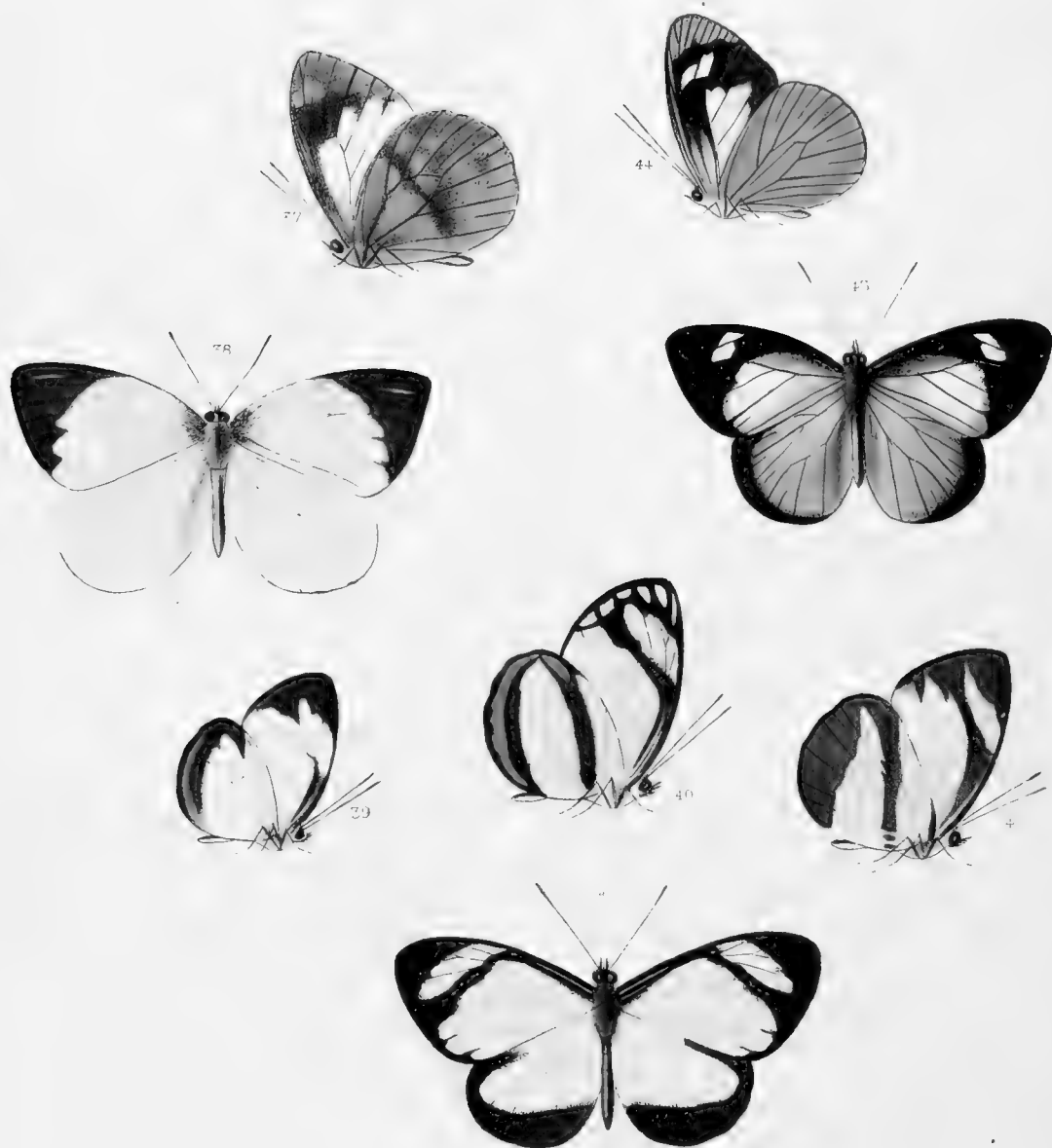
In the Collection of A. R. Wallace.





# PIERIDÆ.

PIERIS VI



W. C. Hewitson, del. et lith. 1867

Printed by Hillmandel & Walter

38 PIERIS NAMA  
39 PIERIS POLISMA  
39 PIERIS PANDOSIA

40 41 PIERIS PISCUS  
42 PIERIS MAPANA  
43 44 PIERIS MESIA

## PIERIDÆ.

### PIERIS. VI.

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#### PIERIS NAMA, VAR. 37.

*P. Nama. Doubl. Gen. Diur. Lep. p. 46. Horsf. & Moore, Cat. Lep. E. I. C. Museum, p. 76.*

UPPERSIDE. Male cream-colour. Anterior wing with the apex from the middle of the costal margin to the anal angle nearly of the outer margin black, sinuated between each pair of nervures. Posterior wing with the outer margin grey, the termination of each of the nervures near the apex black.

UNDERSIDE. Anterior wing white, the costal margin and apex broadly green, crossed near the apex by three or four spots of lighter green; the nervures, the outer margin and a spot between the second and third median nervures, grey. Posterior wing pale green, the nervures, a transverse indistinct band beyond the middle and the outer margin darker: crossed longitudinally from the base to near the outer margin by a band of green-white; some indistinct spots of the same colour parallel to, and not far from, the outer margin.

Expan.  $2\frac{6}{10}$  in. Hab. Sylhet.

Variety fig. 37. Differs in having the outer half of the anterior wing on the upperside black, and the posterior wing on the underside crossed transversely before the middle by a band of brown. The longitudinal band is also absent.

Expan.  $2\frac{2}{10}$  in. Hab. Neilgherries.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### PIERIS POLISMA. 38.

UPPERSIDE white. Anterior wing with the apex broadly black; traversed by a longitudinal white line, and dentated inwardly.

UNDERSIDE white, with the costal margin of both wings pale yellow. Anterior wing crossed obliquely by an indistinct band of black.

Expan.  $2\frac{3}{10}$  in. Hab. Celebes.

In the Collections of W. W. Saunders and W. C. Hewitson.

PIERIS PANDOSIA. 39.

*P. Pandosia.* Hewitson, *Ex. But.* Vol. I. *Pieris*, f. 14.

PIERIS PISONIS. 40, 41.

UPPERSIDE. Male green-white. Anterior wing with the costal and outer margins black; the apex broadly black, crossed obliquely by a band of white. Posterior wing, with the costal margin from its middle, and the outer margin, broadly black.

UNDERSIDE as above, except that the anterior wing has a band of white spots near the outer margin, and that there is a band of brown near the costal margin of the posterior wing, marked near the apex by a rufous band which traverses the whole of the outer margin.

Female as in the male, except that the margins are broader, and that the inner margin of the anterior wing and the whole costal margin of the posterior wing are brown.

Expan.  $2\frac{3}{10}$  in. Hab. Amazon and Bogota.

In the Collections of W. W. Saunders and W. C. Hewitson.

PIERIS MARANA. 42.

*P. Marana.* Doubl. *Annls. Nat. His.* XIV. 421.

I have figured this species and the underside of *P. Pandosia* to point out the distinctions of three closely-allied species.

PIERIS CÆSIA. ♂ 43, 44.

♀ *P. Cæsia.* Lucas, *Rev. & Mag. Zool.* No. 3. 1852.

UPPERSIDE. Male grey-blue. Anterior wing from the inner margin to the middle grey-blue, marked with a large trifid white spot; the costal and outer margin and the apex broadly black, marked before the apex by a bifid white spot. Posterior wing with the outer margin black.

UNDERSIDE. Anterior wing as above, except that the grey is absent, that the large white spot extends to the base and inner margin, and that the apex is green. Posterior wing bright green-yellow, the nervures, lines between them and a line which passes longitudinally through the cell, black.

Expan.  $2\frac{1}{10}$  in. Hab. Quito.

In the Collections of W. W. Saunders and W. C. Hewitson.



PLATE  
VII



PLATE VII

THE BUTTERFLIES OF THE GENUS *Parantica* (continued)

## PIERIDÆ.

### PIERIS. VII.

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#### PIERIS LAETA. 45, 46.

UPPERSIDE. Male, white: anterior wing with the nervures, the apex (broadly), and the outer margin (which is deeply sinuated on its inner border) black; posterior wing cream-colour with the outer margin black.

UNDERSIDE. Anterior wing black: the base of the costal margin and an oblong spot within the cell grey and green: the inner margin white: a bifid pale yellow spot on the costal margin beyond the middle: the apex crossed by a broad triangular band of very bright yellow divided into six by the nervures. Posterior wing brilliant yellow; a band of scarlet bordered on both sides with black from the base of the wing to the middle of the costal margin: a band of six scarlet spots near the outer margin separated by short black bands at the termination of the nervures: some of these spots inclosed above by a delicate black line.

Expan. 2 in. Hab. Timor.

In the Collection of A. R. Wallace.

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#### PIERIS TIMNATHA. 47, 48.

UPPERSIDE. Male, anterior wing black; the costal margin to beyond the middle, the cell, three small spots beyond the cell, a large trifold space below the median nervure (irrorated with grey towards the inner margin), and a submarginal band of eight spots (two of them irrorated with grey), all white. Posterior wing grey irrorated with black: the nervures below the middle and lines between them black: the cell, a spot near it, and two spots lower down towards the apex, white.

*Timor Oct. 1891.*

G

UNDERSIDE. Anterior wing as above, except that the white spots are larger and that two of them near the apex are pale yellow. Posterior wing yellow tinted with orange, partly white beyond the cell, intersected by dark brown nervures: the outer margin broadly brown, traversed by a band of seven pale yellow spots.

Expan.  $2\frac{6}{10}$  in. Hab. Tondano.

In the Collection of A. R. Wallace.

This species is closely allied to *P. Aspasia* of Stoll; on its underside it scarcely differs from the female of that species.

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PIERIS ZEBUDA. 49, 50.

UPPERSIDE. Male, white; anterior wing elongated at the apex as in *P. Thestylis* and *Nero*, with the costal margin, the apex (broadly), and the outer margin to nearly the anal angle, dark grey: the nervures black where they join the outer margin. Posterior wing with the outer margin of a paler grey.

UNDERSIDE. Anterior wing from the base nearly to the middle (except the centre of the cell which is black) light grey and green, followed by dark brown paler towards the apex and crossed by a curved band of seven oblong pale yellow and white spots: at the end of the cell an oblique oblong white spot. Posterior wing orange-yellow; the base and the costal and outer margins dark brown: a submarginal band of six yellow spots: an oblong scarlet spot at the base of the costal margin.

Female, upperside grey- or green-brown; both wings with a white spot at the end of the cell, both crossed near the outer margin by a curved band of six indistinct grey- or green-white spots. Underside as in the male, except that there is no grey at the base of the anterior wing, and that the centre of the posterior wing is yellow, deeply intersected outwardly with black.

Expan.  $3\frac{1}{2}$  in. Hab. Menado.

In the Collections of W. W. Saunders and W. C. Hewitson.

This species bears so close a resemblance to *P. Descombesi* that, were it not for the elongated fore wings, I might have hesitated to describe it as a new species.





PIERIS L. COLE  
PIERIS L. COLE & ANTHOCHUS



51. PIERIS FRAGSTUS  
52. PIERIS BERNICE

53. PIERIS CYLLUS  
54. PIERIS FOIISMA

55. ANTHOCHUS AMIRA

## PIERIDÆ.

### PIERIS VIII. AND ANTHOCHARIS.

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#### PIERIS ERASTUS. 51.

UPPERSIDE pale yellow. Anterior wing, with the costal margin irrorated with brown; the outer margin (especially near the apex) broadly brown, its inner border deeply sinuated twice below the middle. Posterior wing, with an oblong spot at the apex, and below it four large round spots, brown.

UNDERSIDE paler than above. Anterior wing with the base orange. Both wings with marginal spots of dark brown, each intersected by a line of pale yellow; six spots on each wing.

Expan.  $1\frac{8}{10}$  inch. Hab. Gaboon.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### PIERIS BERNICE. 52, 53.

UPPERSIDE. Male, white. Anterior wing with the base and costal margin, to its middle, orange; apex and outer margin, to below the middle, brown, with its inner border sinuated twice, followed near the anal angle by two brown spots. Posterior wing with six marginal round spots of brown.

UNDERSIDE. Anterior wing white tinted with yellow near the apex, the base orange, as above. Posterior wing pale yellow. Both wings with small marginal brown spots; seven on the anterior wing, six on the posterior wing.

Female, above grey-brown, darkest near the margin; both wings with marginal brown spots. It scarcely differs from the male below.

Expan.  $2\frac{2}{10}$  inch. Hab. Gaboon.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### PIERIS CYNIS. 54.

UPPERSIDE white. Anterior wing with the costal margin to near its middle irrorated with brown; the costal margin from its middle, the apex, and outer margin, brown; its inner border three times sinuated. Posterior wing slightly spotted with brown on the margin.

UNDERSIDE as above, except that the apex of the anterior wing is irrorated with grey; the margin of the posterior wing spotless.

Expan.  $2\frac{5}{20}$  inch. Hab. Sumatra.

In the Collection of W. C. Hewitson.

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PIERIS POLISMA. ♀

*Male, Hewitson's Exotic Butterflies, Vol. II. Pl. VII. fig. 38.*

UPPERSIDE. Female, white. Anterior wing with the costal margin irrorated with brown from the base to the middle, the base broadly brown trifid; the apex and outer margin broadly brown, the inner border dentated. Posterior wing with large brown spots on the outer margin.

UNDERSIDE. Anterior wing as above, except that the base is pale grey, and the apex pale rufous-brown. Posterior wing pale yellow, slightly clouded with brown towards the outer margin.

Expan.  $2\frac{1}{20}$  inch.

In the Collection of W. C. Hewitson.

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ANTHOCHARIS AMINA. 1, 2, 3.

UPPERSIDE. Male, white tinted with yellow on its basal half. Both wings with a marginal band of yellow spots. Anterior wing, with the apical half carmine, crossed by a curved line of black, and bordered inwardly by the same colour. Posterior wing with the outer margin brown.

UNDERSIDE yellow. Anterior wing white, the base orange, a minute black spot at the end of the cell; the apex yellow crossed by the curved band as above which incloses a spot of carmine; the nervures, and a submarginal band which crosses them, brown. Posterior wing crossed by three rufous-brown bands; one near the base, the second (broken into three parts) at the middle, and the third near the costal margin; the ends of the nervures between the last band and the margin also rufous-brown.

Female like the male, except that the apical half of the anterior wing is dark brown, marked by three pale yellow spots, and that the brown outer margin of the posterior wing is broader. On the underside there is no difference.

Expan.  $1\frac{8}{10}$  inch. Hab. Zambesi.

In the Collection of W. C. Hewitson.

I do not feel sure that I have done right in placing this beautiful species where in colour it is most in harmony. It ought, perhaps, to stand next to *Pieris Gidica*, but I must confess myself unable to find any characters by which, in cases of doubt, to separate *Anthocharis* from *Pieris*.



200, 201, 202, 203  
204, 205



## PIERIDÆ.

### EUTERPE.

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#### EUTERPE TELTHUSA. 1. 3.

UPPERSIDE. Male black. Anterior wing with a large spot of grey and white between the median nervure and the inner margin. Crossed beyond the middle by a band of five pale yellow spots; two or three small grey spots near the apex. Posterior wing from its base to nearly the middle, and some lunular spots on the outer margin, grey.

UNDERSIDE. Anterior wing as above, except that there are no spots near the apex, and that the other spots are more distinct. Posterior wing dark brown; the base of the costal margin, and a round spot near it, scarlet; an oblong spot of yellow (forming one with the spot of the anterior wing) on the costal margin.

Expan.  $2\frac{7}{10}$  in. Hab. Peru (Upper Amazon).

In the Collection of W. C. Hewitson.

Nearly allied to E. Antodyca, and E. Swainsonii.

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#### EUTERPE TELLANE. 2. 4.

UPPERSIDE black; the basal half of both wings yellow. Anterior wing, from the base (which is clouded with light brown) to beyond the middle (except the costal and outer margins), yellow. A bifid spot beyond it, a small spot on the costal margin, and a row of small spots near the outer margin yellow. Posterior wing from the base to beyond the middle, yellow, clouded at the base and anal angle. The apex with two small yellow spots.

UNDERSIDE as above, except that the anterior wing is rufous near the apex ; that the yellow at the base is extended in a triangular form to the costal margin, and that the spot on the costal margin and the bifid yellow spot form one ; that the posterior wing has two scarlet spots and a rufous patch at the base, and that the outer half is rufous, where black above.

Expan.  $2\frac{1}{2}$  in. Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

Nearly allied to E. Dysoni, but differs from it in the marking of the underside, as well as in the yellow colouring of the upperside. It may, however, be only a variety of that species.

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#### EUTERPE TEUTAMIS. 5. 6.

UPPERSIDE, with the basal half of the wing grey or white, the rest black. Anterior wing, from the base to beyond the middle (except the costal margin and nervures, which are black), white, clouded with grey at the base. The remainder black, crossed near the outer margin by a band of narrow white spots. Posterior wing, from the base to beyond the middle, grey-white, dentated at the margin ; the remainder of the wing black.

UNDERSIDE. Anterior wing as above, except that it is brown instead of black ; rufous at the base ; and that the spots of the band are yellow, with between each of them and the outer margin a linear yellow spot. Posterior wing brown, with two scarlet spots at the base ; a spot on the costal margin, three or four linear spots near the inner margin, and a transverse band of small linear spots beyond the middle, with linear spots below each upon the outer margin, as on the anterior wing, all yellow.

Expan.  $2\frac{1}{2}$  in. Hab. Peru (Upper Amazon).

In the Collection of W. W. Saunders.







# PIERIDÆ.

## EUTERPE II.

### EUTERPE TEUTAMIS. ♀ 7, 8.

*Euterpe Epimene*, Hewitson. *Trans. Ent. Soc.* p. 154, 1870.

UPPERSIDE. Female, dark brown. Anterior wing crossed obliquely at the middle by a broad band of scarlet divided into three parts (one in the cell) by the nervures. Posterior wing paler brown towards the inner margin.

UNDERSIDE. As above, except that the anterior wing has two yellow spots before the apex and a marginal series of spots of the same colour; that the posterior wing has two carmine spots at the base: four spots near the base of the costal margin, two linear spots near the inner margin, and a submarginal and marginal series of spots, all yellow.

Exp.  $2\frac{9}{10}$  inch. Hab. Ecuador. (St. Joaquim, Villagomes.)

In the Collection of W. C. Hewitson.

I did not venture at first, from their great dissimilarity, to place this as the female of *E. Teutamis*. I have now little hesitation in doing so, and hope one day to see the female of *E. Ctemene*, which will no doubt be similar.

### EUTERPE EURIGANIA. 9, 10.

*Euterpe Eurigania*, Hewitson. *Equat. Lep. Supplement*, p. 78, 1870.

UPPERSIDE. Male, pale yellow. Anterior wing with the base, the costal margin, the apex (where it occupies half the wing and is crossed by two or three yellow spots) and the outer margin dark brown: the inner border of the brown sinuated four times where it meets the central yellow, which, together with black nervures, it divides into four parts, one of which is within the cell. Posterior wing with the outer margin (which is marked by a series of yellow triangular spots) the nervures near it and at the base dark brown.

UNDERSIDE rufous-brown. Anterior wing as above, except that there is a fourth minute spot in the subapical band, three large spots at the apex, and a marginal series of hastate spots all pale yellow. Posterior wing with the basal half yellow, divided by the nervures, a line in the cell, and a line near the submedian nervure into eleven or twelve parts: the base itself brown marked by four spots three of which are linear: a series of hastate spots on the outer margin and at the point of each a conical spot all yellow: two minute spots of the same colour above the anal angle.

Exp.  $1\frac{8}{10}$  inch. Hab. Ecuador. (St. Ines, Buckley.)

A specimen of this species given me by the late Dr. Carden is of a darker yellow and has the outer margin of the posterior wing much broader with a marginal series of indistinct yellow spots.

## EUTERPE CTEMENE. 11, 12.

*Euterpe Ctemene*, Hewitson. *Equat. Lep.* p. 3, 1869.

UPPERSIDE. Male, white. Anterior wing with the base broadly brown irrorated with white: the costal margin (which is marked by a bifid white spot at the end of the cell) and the apical third (which is traversed by a straight band of six white spots sometimes scarcely visible, and has its inner border straight) all dark brown. Posterior wing with the base irrorated with brown, the nervures at their base and towards the outer margin black: the outer margin with large brown spots.

UNDERSIDE rufous-brown. Anterior wing as above, except that there is a white and yellow spot near the apex, and rays of yellow from the outer margin between the nervures. Posterior wing with two small spots at the base, a longitudinal line in the cell, a pair of minute spots at the end of the cell, and rays from the outer margin between the nervures, all yellow: three rather large spots near the base (one partly yellow) and spots in pairs between the marginal rays, all lilac-white.

Exp. 2 inch. Hab. Ecuador. (Rio Ashpiyaco, Buckley.)

In the Collections of W. C. Hewitson and W. W. Saunders.

## EUTERPE ANAITIS. 13, 14, 15.

*Euterpe Anaitis*, Hewitson. *Equat. Lep.* p. 3, 1869.

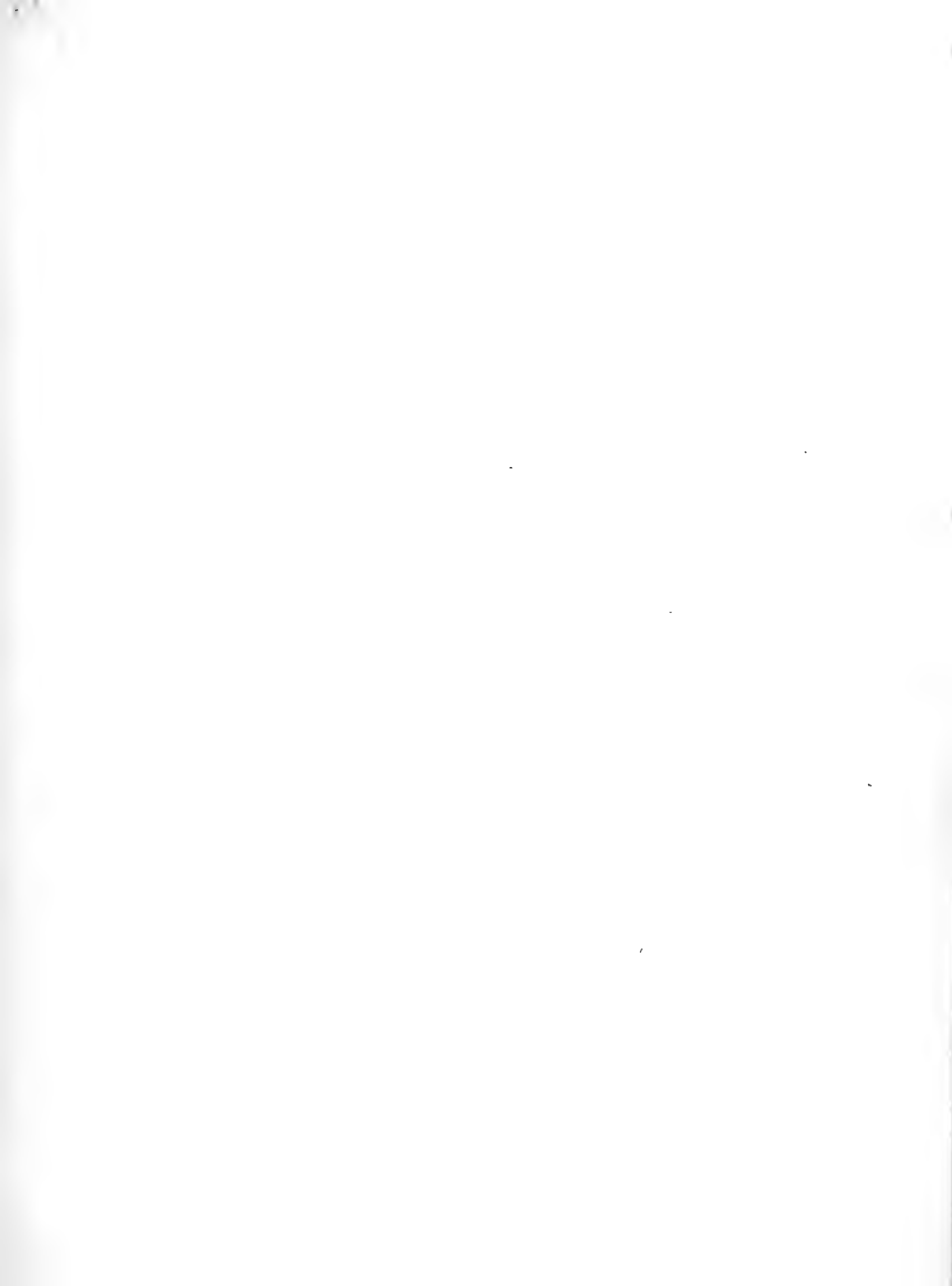
UPPERSIDE. Female, black. Both wings with a submarginal series of indistinct white spots scarcely visible on the posterior wing. Anterior wing with a white spot in the cell, and a transverse band near the middle which commences at the costal margin by four small spots and afterwards becomes very broad as it approaches the inner margin and is divided by broad black nervures. Posterior wing with the basal half yellow (the base itself irrorated with brown), divided by black nervures.

UNDERSIDE as above, except that the anterior wing has hastate rays of yellow from the outer margin, each with a large white lunular spot at its point, and that the posterior wing has the base dark brown marked by four yellow spots, a submarginal series of very large sagittate lilac-white and yellow spots, and a marginal series of triangular spots of yellow.

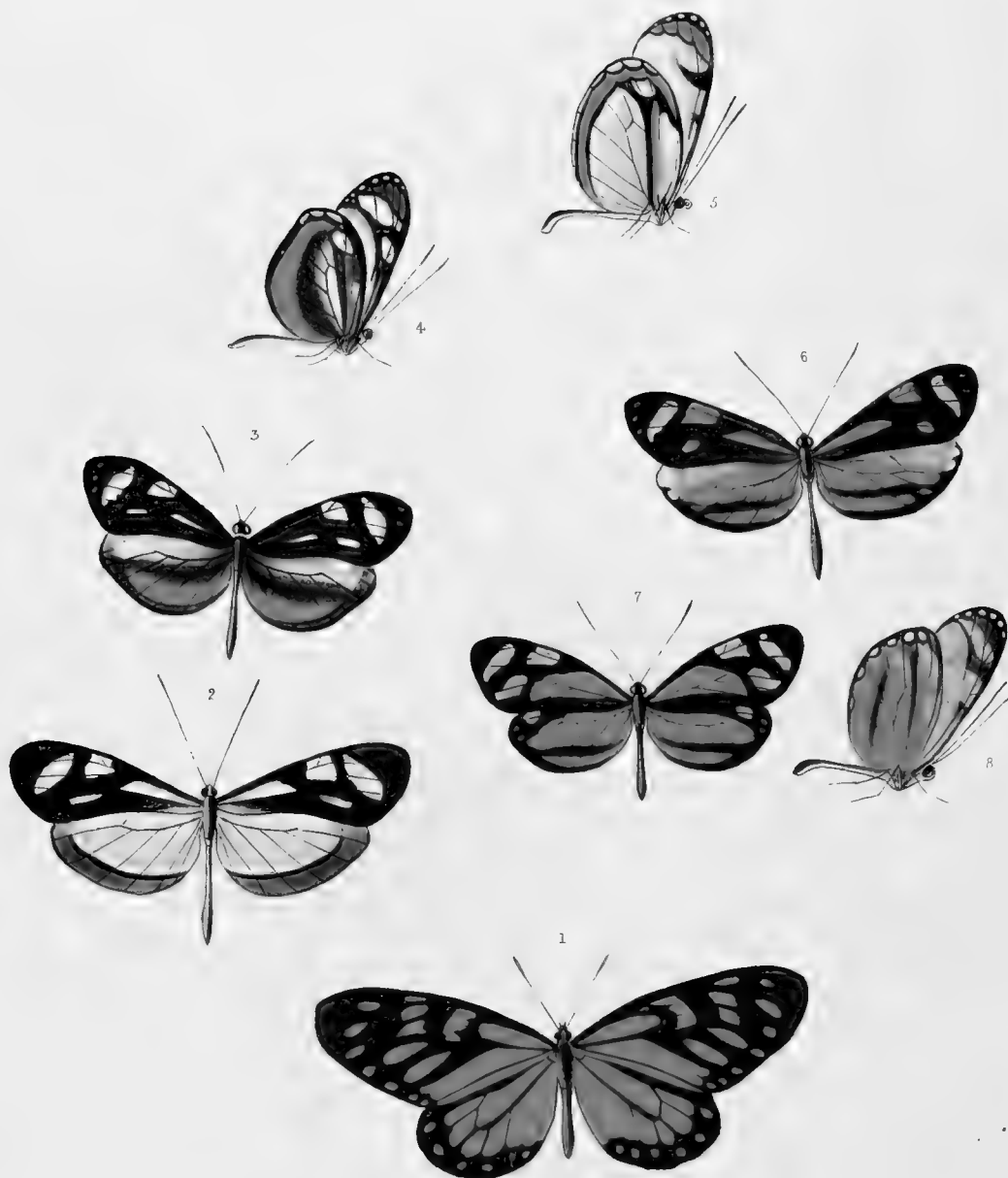
Male differs from the female in having the portion which is white or yellow irrorated with brown.

Exp.  $2\frac{7}{10}$  inch. Hab. Ecuador. (Rio Topo, Buckley.)

In the Collections of W. C. Hewitson and W. W. Saunders



PIERIDÆ.  
EUTERPE & LEPTALIS



W C Hewatson del et lith

Printed by Hubbs and Walton

1 EUTERPE EURYTELE  
LEPTALIS THEONOE 3. 4 LEPTALIS LYSINOE  
6 7. 8. LEPTALIS THEUCHARILA Doubleday

## PIERIDÆ.

### EUTERPE. *Swainson.*

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#### EUTERPE EURYTELE. 1.

UPPERSIDE black, with numerous yellow spots. Anterior wing with the whole space between the inner margin and the first median nervule from the base to near the anal angle, and an oblong spot from the base to the middle of the cell, brick-red. A curved spot across the cell, followed by two curved transverse macular bands; the first, beyond the middle, composed of five large irregular oblong spots, the other, near the outer margin, of seven smaller spots, all yellow. Posterior wing brick-red, the costal and outer margins and the median nervure broadly black, a small spot at the base and a submarginal row of six small spots, yellow.

UNDERSIDE as above, except that the yellow spots are larger.

Expan.  $2\frac{7}{10}$  in. Hab. Quito.

In the Collection of W. C. Hewitson.

This species is especially interesting, from its great similarity in colouring to the neighbouring genus of *Leptalis*.

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### LEPTALIS. *Dalman.*

#### LEPTALIS THEONOE. 2, 5.

UPPERSIDE. Male. Anterior wing purple-black, with four white spots, the first, at the base, oblong, tinted with purple on its upper edge; the second, on the middle of the costal margin, nearly square; the third, half way between it and the outer margin, oblong, and tinted with purple; the fourth, oval and transverse between the last two and the apex. Posterior wing white, tinted with purple, the nervures black, the outer margin broadly bordered with claret, the upper edge of which is black.

UNDERSIDE white, tinted with purple. Anterior wing with the apex broadly rufous, its margin black, with a row of six small white spots; two black spots upon the costal margin. Posterior wing with a circular black line parallel to the costal and outer margins from the base to the anal angle, met obliquely by another black line from the middle of the costal margin; the outer margin black, traversed by a line of white, except at the apex, where it is marked with three oblong spots. The space between the outer margin and the circular black line first described is orange.

Expan.  $2\frac{3}{10}$  in. Hab. Amazon.

In the Collection of the British Museum.

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#### LEPTALIS LYSINOE. 3, 4.

UPPERSIDE. Male black. Anterior wing tinted with purple chiefly towards the base, with four white spots; the first, near the base, minute and triangular; the

second, near the middle of the costal margin, nearly square; the third, half way between it and the inner margin, oblong, minute; the fourth, across the apex large and oblong. Posterior wing black, with the costal margin broadly white and glossy, a broad band of orange parallel to the outer margin from the anal angle to beyond the middle of the wing.

UNDERSIDE. Anterior wing as above, except that the first and third spots described above form part of a broad white glossy inner margin; that there is an indistinct line near the base and spot near the apex, rufous, and a submarginal row of seven minute white spots. Posterior wing black, the centre transparent, two lines at the base near the costal margin, and a broad band parallel to the inner and outer margins orange, two spots near the costal margin, and three smaller ones at the apex, white.

Expan.  $1\frac{8}{10}$  in. Hab. Amazon.

In the Collection of Mr. Bates.

This and the last described species are much alike; they, together with *L. Methymna* and *Eumelia*, bear a very close analogical resemblance to some of the *Ithomias*. *L. Methymna* and *Eumelia* are so like *Ithomia Eurimedia* and some other species, that at first sight it requires an experienced eye to tell the difference, whilst on the underside, the species in the plate, *L. Theonoe* and *Lysinoe*, seem to imitate *Ithomia Egra* and *Flora* in their beautiful colouring.

#### LEPTALIS THEUCHARILA. 6, 7, 8.

*L. Theucharila.* Doubleday—*Annals of Nat. Hist. N. S. I.* 123.

UPPERSIDE. Male. Anterior wing black, with four spots; the first, at the base, oblong and orange; the second, on the middle of the costal margin, nearly square; the third, half way between it and the anal angle, round; the fourth, across the apex, oblong; all yellow; the apex with two or three indistinct minute white spots. Posterior wing orange, the nervures black, the costal margin broadly of a pearly white, the outer margin, and a band parallel to it, from near the anal angle, and united to it at its middle, black.

UNDERSIDE. Anterior wing as above, except that the first and third spots form part of a broad glossy inner margin; that there is a rufous line at the base, and a row of six white spots at the apex. Posterior wing orange, with a line passing through the cell from the base to the outer margin, and a second and a shorter one parallel to the outer margin, black; the outer margin black, with six spots of white, largest at the apex; the costal margin clouded, and marked with two large spots of orange-yellow.

FEMALE differs from the male on the upperside in having the first and third spots of the anterior wing much larger, in having the glossy white margin of the posterior wing replaced by black, marked with a small orange spot.

UNDERSIDE. The first and third spots run together, and occupy most of the space which is glossy and white in the male.

Expan. ♂  $1\frac{9}{10}$  ♀  $1\frac{8}{10}$  Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.





## И РИТАЛИ: П


$$W = \{ \omega \in \Omega : \exists t \in [0, T] \text{ such that } |\omega(t)| \geq 1 \}$$

It is not clear that the model is a good fit to the data.

### REFERENCES

## REFERENCES

## PIERIDÆ.

### LEPTALIS II.

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#### LEPTALIS RHETES. 9.

*L. Rhetes, Boisduval Mss.*

UPPERSIDE. Male black. Anterior wing with a large oblong trifid lilac spot from the base of the wing to the base of the second median nervule, and a second oblong spot of the same colour touching the inner side of the third median nervule. Seven spots of white; one on the costal margin before the middle; two (one bifid) obliquely across at the middle (the last tinted with lilac and touching the second lilac spot described above) and a curved band of four spots before the apex (one on the costal margin bifid). Posterior wing with a central longitudinal band of lilac-white from the base to the apex, divided towards the apex into three separate oblong spots. The costal margin rufous.

UNDERSIDE rufous where black above. Posterior wing with two longitudinal black spots in the cell, and one of the same colour at the middle of the costal margin. Both wings with two small white spots near the apex.

Expan.  $2\frac{7}{10}$  in. Hab. Columbia.

In the Collection of Dr. Boisduval.

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#### LEPTALIS ORISE.

*L. Orise, Boisduval, Spec. Gen. page 415.*

UPPERSIDE. Male black. Anterior wing with five transparent spots of dirty light yellow. The first at the base triangular and bifid (the upper half tinted with lilac); the second near the middle of the costal margin quadripartite (the lower half tinted with lilac); the third and fourth, which are small, between the second spot and the outer margin; the fourth before the apex large and circular and sex-partite by the nervures. Posterior wing with two large transparent dirty yellow spots; one from the base to the middle sex-partite, the other before the apex tripartite. The costal margin smooth and glossy.

UNDERSIDE as above, except that the whole of the anterior wing below the subcostal nervure from the base to the apical spot is grey-white and glossy, with a centre of dense opaque white scales; that the posterior wing has a dirty yellow spot on the costal margin near the base; that the large spot at the apex extends to the costal margin and is quadripartite, and that there are three small white spots near the outer margin, in a row; one at the middle between the large spots, the others on the sections of the large basal transparent spot.

Female differs in form. In having the second, third, and fourth spots of the anterior wing united in one large central band, the large apical spot of the posterior wing quadripartite; and on the underside in having the central band where it approaches the anal angle white.

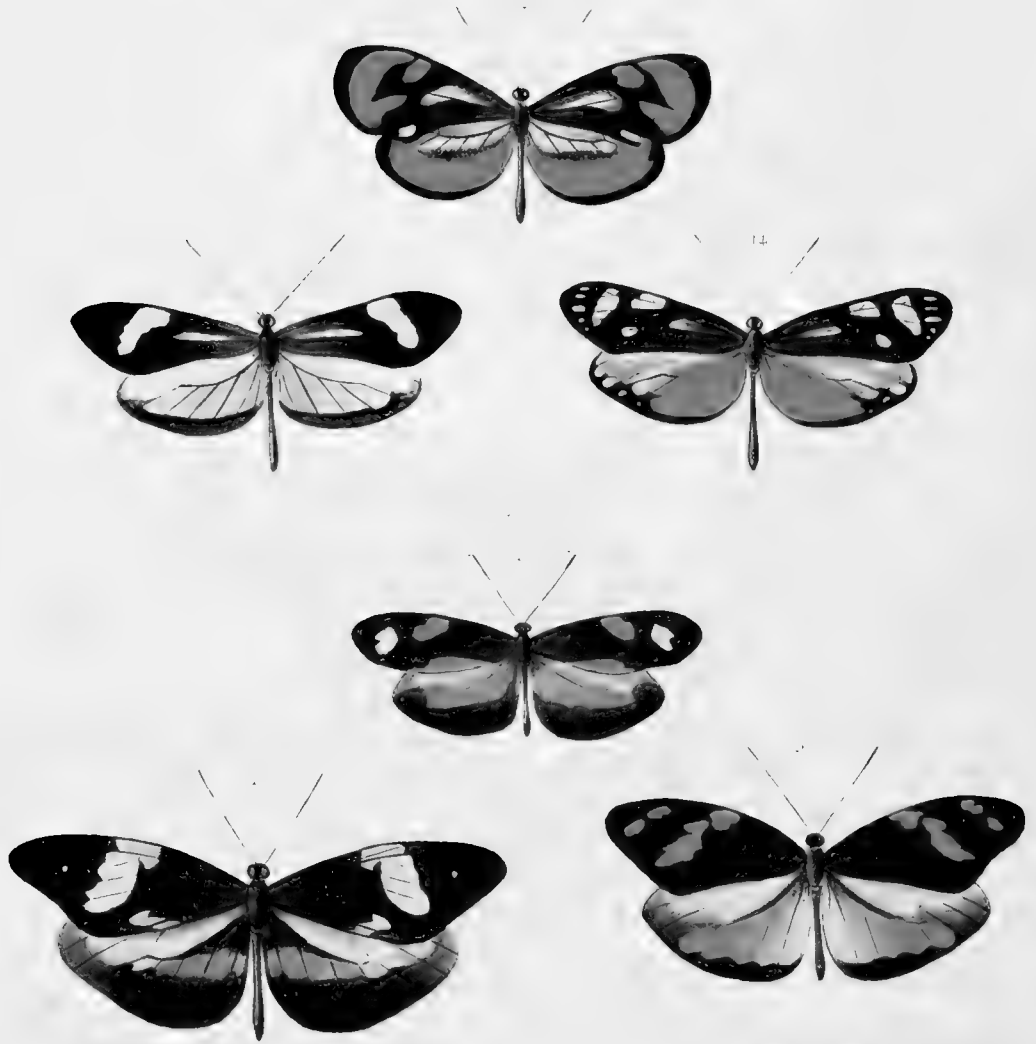
Expan.  $3\frac{5}{10}$  in. Hab. Amazon and Cayenne.

In the Collections of Dr. Boisduval and the British Museum.

Dr. Boisduval has, with his usual generosity, allowed me to bring to England with me to figure this and the other species of the plate. They are both very rare. *L. Rhetes* is unique in his rich collection. *L. Orise*, especially the female, is most remarkable for the very close resemblance which it bears to *Methona Themisto*, and more so still to a new species or variety of *Themisto*, which has the transparent part of the posterior wings divided by a black transverse band into two distinct spots. With this it is almost identical, and no one unless he were an entomologist would think of separating them. The nervules, however, show that they have no real affinity.



# LEPTALIS



1. *Leptalis anthesia* (Hb.)

2. *Leptalis lachry* (Hb.)

3. *Leptalis lachry*  
4. *Leptalis lachry*  
5. *Leptalis lachry*

6. *Leptalis lachry*  
7. *Leptalis lachry*  
8. *Leptalis lachry*

## PIERIDÆ.

### LEPTALIS. III.

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#### LEPTALIS ANTHERIZE. 12.

*Leptalis Antherize, Boisduval, Mss.*

UPPERSIDE. Male. Anterior wing black, with a semi-transparent line from the base to the middle. Crossed beyond the middle by a transverse band of white. Posterior wing (except the costal margin, which is broadly grey, with the apex white), transparent; the nervures and outer margin black.

UNDERSIDE as above, except that the whole of the anterior wing from the base to the transverse white spot (the costal margin excepted) is of a glossy grey. The apex rufous marked with three minute dots of white. That the posterior wing has the outer and costal margin broadly rufous, the costal margin from the base to the middle semi-transparent and traversed by a black nervure, the outer margin with six lunular white spots bordered with black, the two spots nearest the apex larger than the rest, and rounded.

Expan.  $2\frac{1}{2}$  in. Hab. Mexico.

In the Collection of Dr. Boisduval.

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#### LEPTALIS LYSINOE. ♀ 13.

♂ *L. Lysinoe, Hewitson, Ex. But., Lep., figs. 3, 4.*

In the usual appearance the female does not differ from the male figured before, except in its greater breadth, and in being without the glossy costal margin of the under wing. The variety now figured is a female.

In the Collections of W. W. Saunders and W. C. Hewitson.

From what I have seen of this genus until recently, I had believed that the species were constant in their colouring and varied but little. I have now a series of specimens from New Granada, which differ from each other as much as any of the Heliconide, and are so strange in the arrangement of the colour and the spots that it is almost impossible to say what species they are intended to represent.

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#### LEPTALIS SILOE. 14.

UPPERSIDE. Male. Anterior wing brown, with several white spots, one from the base to the middle (clouded except at its point); a second at the middle of the costal margin trifid; a third (a small one) below it, and a fourth near the apex 4-fid. Apex with a row of five white dots. Posterior wing orange, the nervures and outer margin black, with four white spots between the middle and the apex; costal margin broadly grey with a white spot.

UNDERSIDE as above, except that the anterior wing is grey from the middle to the inner margin. That the posterior wing has the costal margin broadly brown with an oblong orange spot at the base traversed by a black nervule, and that the white spots on the outer margin are continued to the anal angle.

Expan.  $2\frac{1}{2}$  in. Hab. New Granada.

In the Collections of W. C. Hewitson and British Museum.

This may be only a variety of *L. Theucharila*. There is a variety in the British Museum with the oblong spot at the base of the anterior wing orange.

*Feb. July 1. 1855*

## LEPTALIS ZATHOE. 15.

UPPERSIDE. Male dark brown. Anterior wing with two large spots of yellow; one touching the middle of the costal margin; the other on the inner margin before its middle; a white spot nearer to the apex. Posterior wing with a large central space of yellow; the costal margin grey.

UNDERSIDE almost without colour; the spots above ill-defined; the apex of the anterior wing white from the white spots.

The female differs only in having the first white spot longer.

Expan.  $1\frac{8}{10}$  in. Hab. New Granada.

In the Collections of W. C. Hewitson and the British Museum.

## LEPTALIS ZAELA. 16.

*Leptalis Zacla*, Boisduval, Ms.

UPPERSIDE. Male. Anterior wing dark brown with two oblique transverse bands of bright orange spots. One band of two spots at the middle; the other band, near the apex, of two smaller spots, the first of which is bifid. Posterior wing from the median nervure (which is marked by a line of brown) to the costal margin half-grey, half-brown, and as if highly polished. The rest of the wing (except the outer margin which is brown) light yellow near the inner margin, bright orange near the middle.

UNDERSIDE differs entirely. Anterior wing, except the costal margin and apex, like polished steel, with a large triangular spot of white before the middle; the bands of the upperside visible. The apex and the whole of the posterior wing variegated with metallic-grey and light brown.

Expan.  $2\frac{2}{10}$  in. Hab. New Granada.

In the Collection of Dr. Boisduval.

## LEPTALIS EURYOPE. 17.

*L. Euryope* Lucas. *Revue et Mag. de Zoologie*, 1852.

UPPERSIDE. Male dark brown. Anterior wing with a broad transverse central band of white; a small spot between it and the apex, and a lunular bifid spot near the middle of the inner margin white. Posterior wing from the median nervure to the costal margin like polished steel. An ill-defined band of yellow (divided into four by the nervules) from the inner margin to the outer end of the cell.

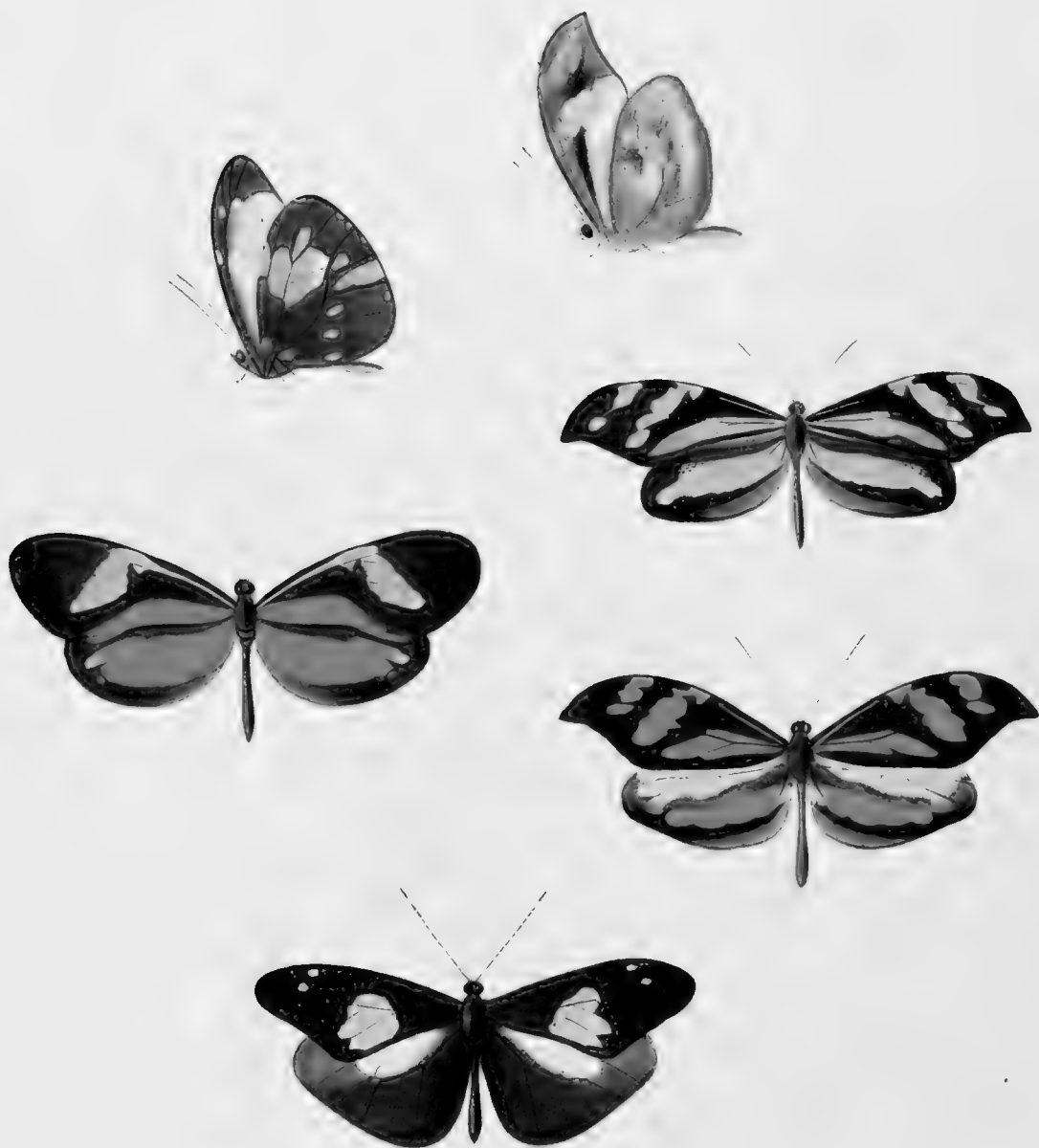
UNDERSIDE entirely grey and brown. Anterior wing like polished steel, with the white band as above, and a triangular spot, also white, attached to its inner side. Apex clouded with grey and brown. Posterior wing grey-brown, except where it is crossed from the middle of the inner margin to the middle of the costal margin by an irregular band of seven white or light-yellow spots; the middle spot bifid.

Expan.  $2\frac{6}{10}$  in. Hab. Mexico.

In the Collection of the British Museum.







*Antonia (H. 1861)*

## P I E R I D Æ.

### LEPTALIS. IV.

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#### LEPTALIS LYCOSURA. 18. 20.

UPPERSIDE. Male black. Anterior wing black, with a large irregular pale yellow spot before the middle, commencing in the cell and ending near the inner margin beyond its middle. Two small white spots near the apex. Posterior wing brown, lighter near the apex, with a large smooth white spot touching the margin of the anterior wing.

UNDERSIDE. Anterior wing grey and white, the costal margin (which is marked with two yellow spots) and the apex brown. Posterior wing brown, with two spots at the base, and the base of the inner margin scarlet. Crossed from the middle of the costal margin to the middle of the outer margin by a band of yellow spots. The first spot large, divided into six, by the nervures; the second and third triangular, the fourth (on the margin) square. Between the second and third spots and the inner margin are three small triangular yellow spots.

Expan.  $2\frac{4}{10}$  in. Hab. Peru (Upper Amazon).

In the Collection of W. W. Saunders.

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#### LEPTALIS LYSIANAX. 19.

UPPERSIDE. Female black. Anterior wing, with a large triangular orange spot, touching the inner margin from its base to beyond its middle, and bounded by the median nervure and its first branch. Crossed at the middle by a broad band of light yellow, the subcostal nervure between the base and the said band also yellow. Posterior wing orange, the costal and outer margins broadly black. An orange spot on

the costal margin; a spot of yellow attached to the orange near the apex; the outer margin near the anal angle light brown.

UNDERSIDE as above, except that it is lighter, and that there are three small white spots across the apex of the anterior wing; that the orange of the posterior wing is clouded and replaced by yellow beyond the middle; that the nervures are more distinctly marked, and that there is a band of white spots near the outer margin.

Expan.  $2\frac{6}{10}$  in. Hab. Upper Amazon.

In the Collection of W. C. Hewitson.

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# LEPTALIS SPIO. 21. 22. 23.

*P. Spio* Godart *Encl. Method.*, page 166.

UPPERSIDE. Male black. Anterior wing, with a trifold spot of bright orange, from the base towards the anal angle. Crossed at the middle by a band of the same colour, and near the apex by a macular band of bright yellow. Posterior wing, with the costal margin, broadly pale yellow. Crossed longitudinally by a band of vivid orange. The outer margin, near the anal angle, rufous.

UNDERSIDE. Anterior wing, with the basal spot and the middle transverse band forming one large white spot. The band near the apex obscure. Posterior wing light rufous-brown, undulated with white.

Female with the anterior wing as in the male, except that all the bands are light yellow, and that the posterior wing is crossed longitudinally by a broad band of pale yellow.

Expan.  $2\frac{6}{10}$  in. Hab. St. Domingo.

In the Collection of the British Museum.

This beautiful species is not new. It is, however, rare and little known, and has not been figured before.



# PIERIDAE

## LEPTALIS V



W. C. Howarth, New York, 1902

M. & N. Hanhart imp.

24 LEPTALIS LELEX  
 25 LEPTALIS LATHOE  
 26 27 28 LEPTALIS LITAE  
 29 30 31 LEPTALIS LYSIS  
 32 33 34 LEPTALIS LINDAENSIS

## PIERIDÆ.

### LEPTALIS V.

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#### LEPTALIS LELEX. 24.

*L. Lelex*, Hewitson. *Equatorial Lepidoptera*, p. 6.

UPPERSIDE. Male, anterior wing dark brown, the inner margin angular; marked by four pale yellow spots, one (a large one) from the middle of the costal margin; the second, also large, fills the projecting angle of the inner margin; the other two (one scarcely visible) small before the apex. Posterior wing yellow, polished where the wings meet; the outer margin, from the apex to the middle, dark brown, dentated inwardly.

UNDERSIDE, pale yellow. Anterior wing slightly clouded with grey, polished where it meets the posterior wing; the spots as above, though indistinct.

Exp.  $1\frac{9}{10}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson, from Mr. Buckley.

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#### LEPTALIS ZATHOE. *Var.* ♀ 25.

*Leptalis Zathoe*, Hewitson. *Exot. Butt. Vol. II. Pl. 9, f. 15.*

When I figured this species I believed it to be a female variety of Zathoe. I now think that it would be better placed as the female of Lelex.

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#### LEPTALIS OTHOE. 26, 27, 28.

*L. Othoe*, Hewitson. *Trans. Ent. Soc. Third Ser. Vol. V. p. 562. 1867.*

UPPERSIDE. Male, dark brown. Anterior wing with two large yellow spots, one beyond the middle touching the costal margin, the other at the middle of the inner margin; two very minute indistinct white subapical spots. Posterior wing pale yellow, broadly bordered with brown, except on the costal margin.

UNDERSIDE, pale yellow. Anterior wing with the costal spot as above; polished where the wings meet; the apex slightly irrorated with brown. Posterior wing, with the exception of the central band, a spot near the base, and two spots near the costal margin, irrorated with pale brown.

Female differs in form only.

Exp.  $1\frac{1}{2}$  inch. Hab. New Granada and Ecuador.

In the Collection of W. C. Hewitson.

LEPTALIS LYSIS. 29, 30, 31.

*L. Lysis*, Hewitson. *Equatorial Butterflies*, p. 6.

UPPERSIDE. Male, dark brown. Anterior wing oval, with a large white spot from the costal margin beyond its middle, and a smaller triangular spot, also white, on the inner margin. Posterior wing polished where it meets the anterior wing: crossed beyond the middle by a broad longitudinal band of white.

UNDERSIDE, ochreous-yellow irrorated with brown. Anterior wing with the white spots as above. Posterior wing with the longitudinal band as above, divided by the nervures into eight parts: the base of the costal margin and a spot near it yellow: a white spot near the costal margin before its middle.

Female like the male, except that the anterior wing is crossed on both sides by a broad white band, and that on the underside from its base to this band and a large spot on the opposite margin are brown.

Exp.  $1\frac{8}{10}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).

LEPTALIS LYGDAMIS. 32, 33, 34.

*L. Lygdamis*, Hewitson. *Equatorial Lep.* p. 7.

UPPERSIDE. Male, dark brown. Anterior wing with a quadrate quinquedid spot at the middle of the costal margin, a large bifid spot on the inner margin before its middle, and a minute spot on the costal margin beyond its middle all white. Posterior wing with the basal half (except the base itself, which is brown) white, slightly polished.

UNDERSIDE. Anterior wing grey-white, not polished: costal margin and apex brown marked by a series of white and yellow spots. Posterior wing dark rufous-brown, with four small spots near the base, a large spot within the cell, a transverse band of ten spots, and a submarginal band of eight spots all yellow.

Female white. Anterior wing with the costal margin broadly brown from the base to the middle: the apex very broadly brown, dentated inwardly, and marked on the costal margin beyond the middle by a white spot. Posterior wing with the outer margin dark brown, of unequal breadth, and deeply indented inwardly. Underside as in the male, except that the lower spots of the transverse band and some of the submarginal spots are so much larger that they touch each other.

Exp. 2 inches. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).





# PIERIDAE.

## LEPTALIS VI.



V. L. G. de la r. del. 1871. 1872.

M. & N. Hannart imp.

37 38 LEPTALIS CARTHESIS  
39 40 LEPTALIS DEIONE

39 40 41 LEPTALIS LEONORA.  
42 43 LEPTALIS LARINDA

## PIERIDÆ.

### LEPTALIS VI.

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#### LEPTALIS CARTHESIS. 35, 36.

*L. Carthesis, Hewitson. Trans. Ent. Soc. p. 71. 1869.*

UPPERSIDE. Male, dark brown. Anterior wing with a central oblique band of two spots, an apical trifold band, and a spot on the inner margin, all pale yellow. Posterior wing with a broad longitudinal band and two or three apical spots of pale yellow: the costal margin lilac-white, polished; the outer margin broadly dark brown.

UNDERSIDE dark brown. Anterior wing polished where the wings meet: the central band as above, the apical band broader. Posterior with the costal margin at its base orange: the central band as above, two large yellow spots near the apex, and a submarginal series of eight white spots.

Exp.  $2\frac{7}{10}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).

The typical specimen, in the collection of Mr. Druce, has the spots of the central band of the anterior wing united; it also differs slightly on the underside of the posterior wing.

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#### LEPTALIS DEIONE. 37, 38.

*L. Deione, Hewitson. Ent. Monthly Mag. p. 68. 1869.*

UPPERSIDE. Male, dark brown. Anterior wing with four white spots; the first and largest at the middle of the costal margin, divided into five parts by the nervures; the second between this and the anal angle; the third (trifold), and the fourth subapical: a small linear spot of orange at the middle of the inner margin. Posterior wing, where it meets the upper wing, broadly lilac-white, polished: below this, near the anal angle, a large spot of brilliant orange.

UNDERSIDE, paler brown. Anterior wing with the spots as above: the lower half lilac-white, polished, marked by a large spot of opaque white. Posterior wing crossed (parallel to the outer margin) by a central band of yellow spots.

Exp.  $2\frac{4}{10}$  inch. Hab. Nicaragua (Chontales).

In the Collection of W. C. Hewitson.

For this beautiful species I am indebted to Mr. Belt.

## LEPTALIS LEONORA. 39, 40, 41.

*L. Leonora, Hewitson. Equatorial Lep. p. 7.*

UPPERSIDE. Male, anterior wing black, with a line from the base, a spot on the middle of the costal margin, a spot below this, a large spot on the inner margin, and two small subapical spots all pale yellow. Posterior wing brown, darker at the outer margin: polished white where it meets the other wing: the space between the median nervure and the anal angle grey-blue.

UNDERSIDE. Anterior wing glossy lilac-white: the apex slightly irrorated with brown. Posterior wing irrorated with brown and yellow: three spots near the costal margin and an irregular band of eight spots at the middle (one within the cell) all white: the nervures and spots where they touch the outer margin dark brown: the outer margin yellow.

Female, dark brown: a large space from the inner margin to the middle of the wing, an oblong spot from the middle of the costal margin, and two subapical spots all yellow-white. Posterior wing with the basal half white. On the underside the anterior wing is as above, except that the apex is irrorated with yellow and brown. The posterior wing nearly as in the male.

Exp.  $2\frac{2}{10}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).

A variety of the female has the outer margin of the posterior wing white from the middle to the anal angle.

## LEPTALIS LARUNDA. 42, 43.

*L. Larunda, Hewitson. Equatorial Lep. p. 4.*

UPPERSIDE. Male, anterior wing black, with a large scarlet spot at the base intersected by three nervures, and very irregular in form: crossed before the middle by an irregular sexfid oblique band of pale yellow: a subapical band of four small oval white spots. Posterior wing with the base scarlet, the outer margin broadly dark brown, marked by a yellow spot: the costal margin white, polished.

UNDERSIDE. Anterior wing as above, except that the basal half (except the costal margin, which is dark brown) is white and polished, and that there is a yellow spot near the costal margin before the middle. Posterior wing with the basal half scarlet, followed by a transverse band of yellow marked by two black spots: the outer margin broadly dark brown, traversed by a submarginal band of small white spots in pairs except near the apex.

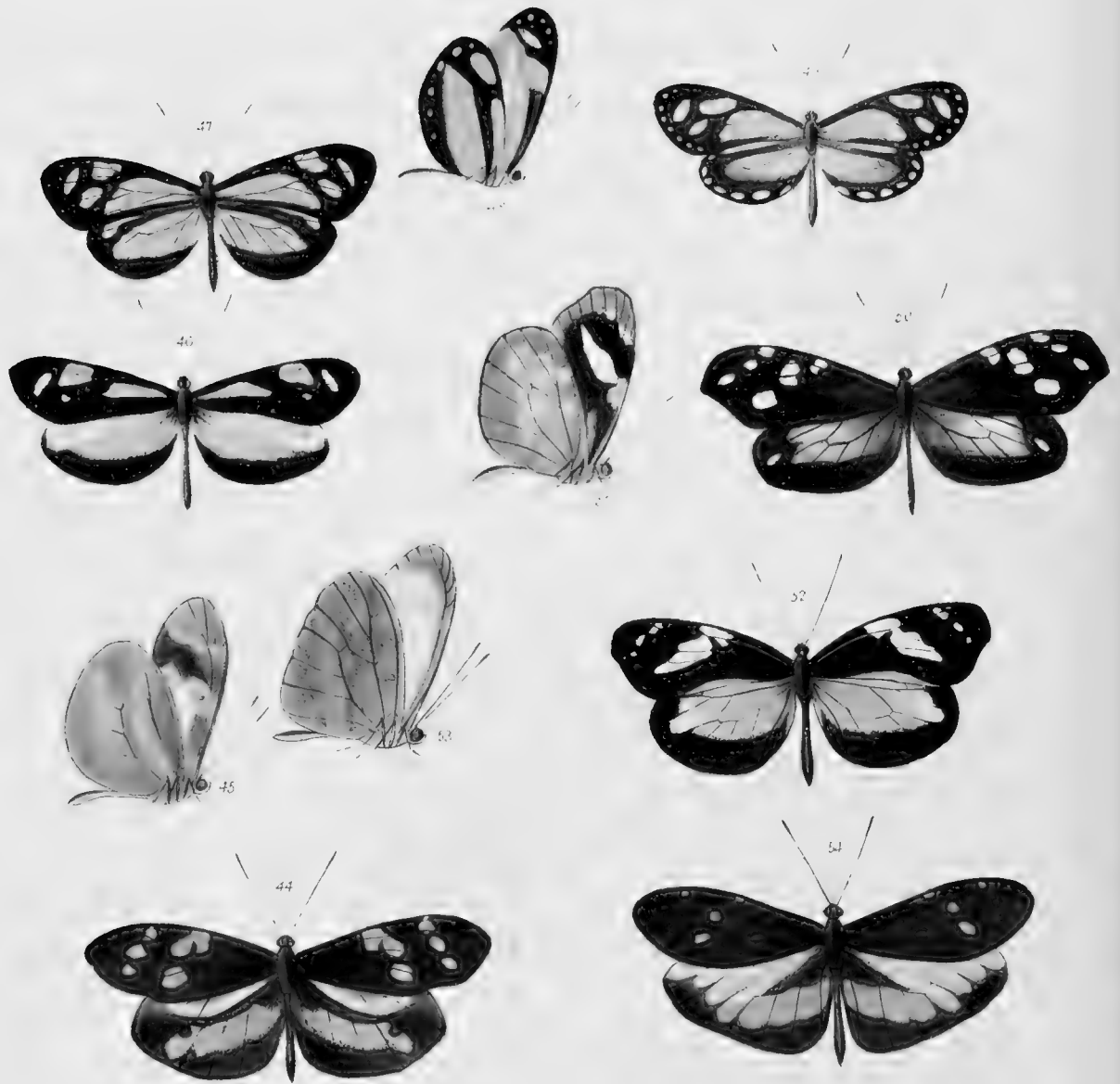
Exp. 3 inches. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).



# LEPTALIS

LEPTALIS. VII.



LEPTALIS. VII. 1862

LEPTALIS. VII. 1862

44 45 LEPTALIS IDONIA

46 47 48 LEPTALIS AVONIA

51 52 53 LEPTALIS TERESA

49 LEPTALIS ITROMIA

54 55 LEPTALIS ITH

## PIERIDÆ.

### LEPTALIS VII.

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#### LEPTALIS IDONIA. 44, 45.

*L. Idonia*, Hewitson. *Equatorial Lep.* p. 5.

UPPERSIDE. Male, dark brown. Anterior wing crossed obliquely by two bands of yellow spots: the first band at the middle with two spots the first of which is large and sinuate: the second band of three spots before the apex. Posterior wing crossed obliquely from the middle of the inner margin by a broad band of yellow divided into four parts by the nervures: the fourth part, which is beyond the third median nervule, is marked on its outer border by a black spot: the costal margin polished where the wings meet.

UNDERSIDE. Anterior wing as above, except that it is pale grey-brown and has the apex ochreous-yellow. Posterior wing clouded ochreous-yellow, with the band as above, but very indistinct.

Exp.  $2\frac{3}{10}$  inches. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).

This species does not differ from *L. Arcadia* of Felder on the upperside, but is very different below.

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#### LEPTALIS AVONIA. 46, 47, 48.

*L. Avonia*, Hewitson. *Trans. Ent. Soc. Third Ser. Vol. V. p. 563.* 1867.

UPPERSIDE. Male, dark brown. Anterior wing with a longitudinal spot within the cell, a large spot on the costal margin beyond the middle, a small round spot below this, and a subapical spot, all pale yellow. Posterior wing pale yellow, polished where the wings meet; the outer margin broadly dark brown.

UNDERSIDE as above, except that the lower half of the anterior wing is white; that the posterior wing has the costal margin and apex broadly brown marked by two large oval pale yellow spots; and that both wings have a submarginal band of lilac-white spots, large and distinct on the posterior wing.

Female like the male, except that the anterior wing has the basal spot and the small spot near the middle of the wing much larger; that the posterior wing has part of the costal margin yellow.

Exp.  $1\frac{1}{2}$  inch. Hab. Quito.

In the Collection of W. C. Hewitson.

In form and in the position of the spots, this species greatly resembles *L. Theucharila* of Doubleday; in colour it is altogether different.

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#### LEPTALIS ITHOMIA. 49.

*L. Ithomia*, Hewitson. *Trans. Ent. Soc. Third Ser. Vol. V. p. 562,* 1867.

UPPERSIDE. Male, brown, both wings with a submarginal row of white spots, large on the posterior wing. Anterior wing with a large triangular spot from the

*L. Ithomia*

base to the middle of the wing; crossed a little beyond the middle by a broad oblique band, and by a subapical bifid spot, all of pale yellow; the inner margin also yellow. Posterior wing pale yellow, lilac-white where the wings meet, the outer margin broadly brown.

Female like the male, except that the central band of the anterior wing is broken into two separate spots; that there is a sub-costal band of brown on the posterior wing.

Exp.  $1\frac{1}{2}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson.

Most nearly allied to *L. Eumelia*, the spots and bands being in the same position; the submarginal spots give it, however, a very different aspect, and a still greater resemblance to some species of *Ithomia*; there is a variety of the female without the submarginal spots.

### LEPTALIS TERESA. 50, 51, 52.

*L. Teresa*, Hewitson. *Equatorial Lep.* p. 8.

UPPERSIDE. Male, black. Anterior wing with a pale triangular spot at the base; crossed by two oblique bands, each of three white spots; the first band in the middle, its first two spots bifid; the second band before the apex, the first spot bifid. Posterior wing with its centre lilac-white smeared with brown, divided by black nervures: a subapical white spot.

UNDERSIDE as above, except that the outer margin of the anterior wing and the whole of the posterior wing are dirty, obscure grey-brown.

Female, dark brown. Anterior wing crossed obliquely at the middle by a band of white sometimes tinted with yellow, indented on its inner border, and terminating below the middle of the wing: crossed before the apex by three small white spots: the middle of the inner margin yellow. Posterior wing yellow, with the outer margin broadly dark brown. On the underside the anterior wing is as above, except that the apex is grey: the posterior wing grey-brown, with two spots of yellow near the base: a spot on the costal margin, a band of nine spots at the middle, and a spot below these white: the outer margin is also irrorated with white.

Exp.  $2\frac{3}{10}$  inches. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).

### LEPTALIS LUA. 53, 54.

*L. Lua*, Hewitson. *Equatorial Lep.* p. 5.

UPPERSIDE. Male, dark brown. Anterior wing with seven yellow spots: one before and below the middle, three in an oblique transverse band beyond the middle, and three smaller ones before the apex. Posterior wing crossed longitudinally by a broad quinquefid band of yellow: the costal margin broadly white, not polished, dentated near the apex.

UNDERSIDE. Anterior wing opaque white, not polished: the costal margin and apex yellow, the nervures brown. Posterior wing pale rufous-brown, with nine spots and the band as above, yellow: the outer margin irrorated with yellow.

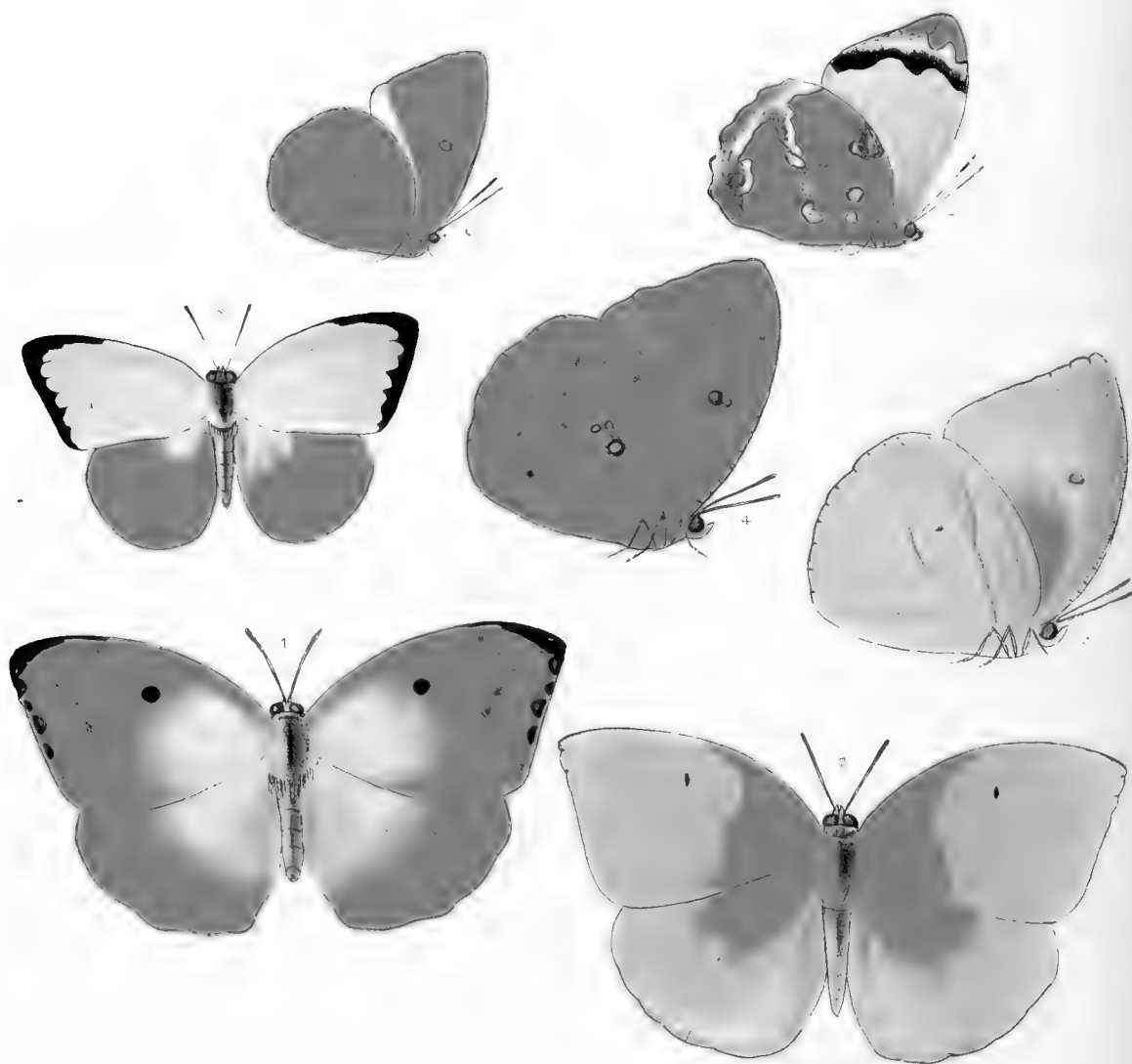
Exp.  $2\frac{3}{10}$  inches. Hab. Ecuador.

In the Collection of W. C. Hewitson (Buckley).





PIERIDÆ  
CALLIDRYAS & ERONIA



W C Hewitson del et lith: July 1<sup>st</sup> 1867.

M & N Hanhart imp

1.2.3.4. CALLIDRYAS FIADUNA. 5.6. CALLIDRYAS ETESIA.  
7 ERONIA ERXIA.

## PIERIDÆ.

### CALLIDRYAS.

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#### CALLIDRYAS FIADUNA. 1, 2, 3, 4.

UPPERSIDE. Male, pale yellow : the base of both wings broadly bright yellow. Anterior wing with an oval black spot at the end of the cell : the apex very slightly margined with brown. Posterior wing tinted with lilac towards the anal angle : marked on the outer margin at the end of the nervures by minute black spots.

UNDERSIDE, pale green : the costal half of the anterior wing and the whole of the posterior wing undulated with darker colour. Both wings with a small silver spot, bordered with rufous-brown, at the end of the cell. Posterior wing yellow near the base where the wings meet.

Female, bright orange-yellow : broadly white, tinted with lilac, at the base. Anterior wing with a black round spot at the end of the cell : crossed beyond the middle by a band of five dark rufous-brown spots : the apex and outer margin, to below the middle, spotted with dark rufous-brown. Posterior wing with a rufous-brown spot. Underside, orange-yellow : the costal half of the anterior wing and the whole of the posterior wing undulated with rufous-brown : both wings crossed beyond the middle towards the apex by rufous-brown spots : both with minute brown spots on the outer margin on and between the nervures. Posterior wing with three silver spots bordered with rufous-brown, at the end of the cell.

Exp. 3 inches. Hab. Madagascar.

In the Collections of W. W. Saunders and W. C. Hewitson.

The undulated appearance of the wings is not produced by colour, but by having the whole embossed with scales paler than the tint of the surface.

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#### CALLIDRYAS ETESIA. 5, 6.

UPPERSIDE. Male. Anterior wing yellow-white, tinted with lilac towards the inner margin : the costal margin from the middle to the apex, the apex and outer margin dark brown, rather broad. Posterior wing orange, except at the base, which is lilac-white : the nervures on the outer margin marked by minute brown spots.

UNDERSIDE, orange-yellow. Both wings with a bifid spot at the end of the cell

bordered with rufous-brown (minute on the posterior wing). Anterior wing with the inner margin lilac-white.

Exp.  $2\frac{3}{20}$  inch. Hab. Australia (Queensland).

In the Collection of W. C. Hewitson.

Nearly allied to *C. Scylla*, but of paler colour and spotless on the underside.

## ERONIA CLEODORA.

*Eronia Cleodora* Hubner. *Samm. Exot. Schmett.* *E. Erxia* Hewitson. *Fig. 7.*

UPPERSIDE. Male, yellow-white. Anterior wing with the apex and outer margin to below the middle dark brown, undulated on its inner border and marked by two white spots, one of which is bifid. Posterior wing with the outer margin dark brown, narrow.

UNDERSIDE. Anterior wing as above, except that the apex is grey bordered inwardly with brown and marked by a spot of orange-yellow. Posterior wing orange, with the outer margin, a band from it (but not connected with it) crossing the wing obliquely towards the middle of the inner margin, a spot above it (sometimes forming part of the band), a spot before the middle of the costal margin, and two spots nearer the base, all lilac-white or grey bordered with rufous-brown.

Female (fig. 7) like the male, except that the outer margins are broader and that the lower white spot at the apex is not bifid: that on the underside the outer margin near the anal angle incloses a small orange spot, and that the oblique band is connected with the margin and is more red-brown than grey.

Exp. ♂ 2 ♀  $2\frac{4}{10}$  inch. Hab. Cape of Good Hope.

In the Collections of W. W. Saunders and W. C. Hewitson.

## ERONIA ERXIA.

*Eronia Cleodora.* *Doubleday and Hewitson Genera Diur. Lep.* *Plate 9, fig. 1.*

I believe that we have two closely allied species here, and that my figure and Hubner's represent one of them (mine a variety in which the oblique band of the underside is more complete), and the figure in the "Genera" another species, which I propose to name *E. Erxia*.

It is always much larger and has the margins much broader, and on the underside suffused with rufous-brown, and without the beautiful silvery grey of *E. Cleodora*: the inner border of the outer margin is also much less sinuated and does not inclose a yellow spot as in my figure. It is a native of Natal.



1891



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## D A N A I D Æ.

### EUPLOEA.

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#### EUPLOEA EUPATOR. 1.

UPPERSIDE. Male dark brown. Both wings crossed in the middle by a macular band of white spots commencing at the costal margin of the anterior wing with a large triangular spot divided by the many nervures which cross it into eight segments; followed between it and the anal angle by two small white spots; divided on the posterior wing by nervules, into eight distinct spots, one of them (a small one) within the cell, the rest (except a small one near the inner margin) deeply sinuated and furcate. Anterior wing with the inner margin slightly convex. Posterior wing with a sub-marginal row of minute white dots.

UNDERSIDE as above, except that the anterior wing has a curved row of five white spots not far from and parallel to the apical margin; a glossy grey spot attached to the largest of the two small white spots of the central band, and a sub-marginal row of minute white dots from the middle to the anal angle. That the posterior wing has two small white spots near the spot within the cell between it and the costal margin.

Expan.  $3\frac{1}{2}$  in. Hab. Celebes.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### EUPLOEA EURIANASSA. 2.

UPPERSIDE. Male dark brown. Both wings crossed by a broad band of white, (divided by the nervules,) parallel and near to the outer margins. Anterior wing with one of those singular oblong compressed marks common to this genus not far from the inner margin; inner margin very convex.

UNDERSIDE differs only in having some light-blue spots in the centre of both wings; on the anterior wing four, one within the cell and three below it in a line, the inmost spot larger and oblong. Posterior wing with six, one within the cell and five in a curve below it.

Expan.  $3\frac{4}{10}$  in. Hab. New Guinea.

In the Collection of W. C. Hewitson.

This species was taken on board ship off the coast of New Guinea.

## EUPLOEA EURYPON. 3.

UPPERSIDE. Male. Basal half of both wings rufous-brown; outer half to the margins (except the costal margin and apex of the anterior wing which are brown) rufous-white.

UNDERSIDE as above, except that there are some small white spots at the base, and some light-blue spots at the centre of both wings; on the anterior wing three, one of them within the cell; on the posterior wing six, one within the cell cordate, the others in a curve below it, and near the apex four similar spots, (two of them scarcely seen,) in pairs, two near the outer margin, and two behind them, as if to form the commencement of a double sub-marginal row of spots.

The female differs only in having the inner margin of the anterior wing (which is convex in the male) slightly concave.

Expan. 3 in. Hab. New Guinea.

In the Collections of W. W. Saunders and W. C. Hewitson.

## EUPLOEA USIPETES. 4.

UPPERSIDE. Male dark rufous-brown. Anterior wing with the inner margin very convex. A large central rufous spot divided into four segments by the median nervures; the inner segment marked with a small oval compressed white spot.

UNDERSIDE as above, except that the central spot is smaller.

Female differs only in having the inner margin of the anterior wing slightly concave; the central rufous spot nearer to the inner margin and divided into two segments only, by the first median nervule, and in having on the underside in the centre of the posterior wing four light-blue spots, one of them in the cell.

Expan.  $3\frac{2}{10}$  in. Hab. New Guinea.

In the Collections of W. W. Saunders and W. C. Hewitson.

Three of the butterflies just described are from the Collection sent home by Mr. Wallace.





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## D A N A I D Æ.

### EUPLOEA, II.

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#### EUPLOEA EUPATOR. 1.

♂ *Hewitson's Exotic Butterflies, Vol. II. Pl. XII. fig. 1.*

UPPERSIDE. Female, dark brown. Anterior wing, with a broad central macular band of eleven white spots: four on the costal margin, two within the cell, and five succeeding each other and increasing in size from the subcostal nervure towards the anal angle, where they are followed by a separate white spot. Posterior wing crossed by a central band of six white spots, four of them sinuated at their bases, and one at its upper extremity as well; a small pale spot within the cell.

UNDERSIDE as above, except that the anterior wing has two minute white spots near its anal angle, and that the posterior wing has four of the spots of the central band subdivided into two: that there are four or five minute white spots within the cell, and a submarginal band of seven, also small.

Expan.  $4\frac{3}{10}$  inch. Hab. Menado.

In the Collection of W. C. Hewitson.

EUPLOEA EUCTEMON. 2.

UPPERSIDE. Male, blue-black, with a submarginal band of ultramarine blue near the costal margin of the anterior wing and the outer margin of both wings; the band of blue near the outer margins traversed by a band of pale blue spots, seven in number on the anterior wing, six on the posterior wing.

UNDERSIDE dark brown. Anterior wing, with three oblong spots on the costal margin beyond the middle, two at the centre of the wing, and two submarginal bands of spots from the middle to the anal angle; all pale blue. Posterior wing, with two submarginal bands of pale blue spots.

Expan.  $3\frac{1}{2}$  inch. Hab. Menado.

In the Collections of W. W. Saunders and W. C. Hewitson.

I have hitherto been prevented from figuring a number of beautiful new species in this genus, in deference to the long-expressed intention of Dr. Boisduval to monograph the family of which they form a part, very unwilling in any way to interfere with the wishes of so kind a friend; now that it is useless to wait any longer (Mr. Butler having published a monograph of the genus), I have figured a species omitted by him, and the remarkable female of my Eupator.



HELICONIDÆ.  
HELICONIA



W. C. Hewitson, del et lith, 1852

Printed by Hallman & Walton.

1. HELICONIA XENOCLEA.  
2. HELICONIA ANDERIDA.

3. HELICONIA QUITALENA.  
4. HELICONIA ARISTIONA.

## HELICONIDÆ.

### HELICONIA. *Latreille.*

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#### HELICONIA XENOCLEA. 1.

UPPERSIDE, black. Anterior wing with two large transverse spots of orange, commencing at the subcostal nervure, one (the largest) across the middle, the other half-way between it and the apex.

UNDERSIDE brown. The spots of the anterior wing almost white and glossy, the large one mingling with the inner margin, which is of a silvery white. Posterior wing with a line of white on the costal margin at the base.

Expan.  $3\frac{1}{10}$  in. Hab. unknown.

In the Collection of W. C. Hewitson.

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#### HELICONIA ANDERIDA. 2.

UPPERSIDE. Anterior wing with the base and the whole of the inner margin (except the submedian nervure and the anal angle which are black), to the middle of the wing, orange changing to yellow at its outer edge, and marked with two black spots; one obliquely across the cell, the other below it round. The rest of the wing black, crossed by two bands of yellow spots; the first a little beyond the middle, oblique, of three spots, the middle one of which is united with the basal space; the second, transverse, near the apex, of four spots. Posterior wing orange, with a narrow horizontal band (deeply dentated on its outer edge), and a broad outer margin black, and united at the apex, which has a round white spot.

UNDERSIDE as above, except that the posterior wing has two spots of white near the apex, a row of numerous oblong silvery white spots on the outer margin, and a line of black at the base.

Expan.  $3\frac{1}{2}$  in. Hab. Honduras.

In the Collections of W. W. Saunders and W. C. Hewitson.

HELICONIA QUITALENA. 3.

UPPERSIDE. Anterior wing black crossed by three bands of yellow spots. The space from the median nervure and its first branch to the inner margin (except the line of the submedian nervure which is black), and a small double spot near the anal angle brick red.

The first of the three bands crosses the cell very obliquely (uniting with the rufous margin), and is followed by a small spot; the second band beyond the middle is of four spots, the fourth apart from the rest; the third band near the apex is of four larger spots. Posterior wing with a horizontal band of black (deeply dentated on its outer edge) before the middle, the outer margin also black, with many minute points of white.

UNDERSIDE as above, except that there are four small white spots near the outer margin of the anterior wing, and two near the apex of the posterior wing. The black margin of the posterior wing is narrower, and the white spots upon it more distinct.

Expan.  $3\frac{7}{10}$  in. Hab. Quito.

In the Collection of W. C. Hewitson.

HELICONIA ARISTIONA. 4.

*H. Aristiona.* Doubleday.—“*Gen. of Diurnal Lep.*” (*undescribed*).

UPPERSIDE. Anterior wing light orange, the base and inner margin clouded with brown; the submedian nervure, two spots within the cell, and the apex for nearly one third of the wing (its inner margin deeply sinuated) dark brown. Posterior wing brown, with a small triangular spot of orange (interrupted by a spot of black) near the apex.

UNDERSIDE as above, but lighter, with a third black spot within the cell (a triangular one near the base of the wing), and a small spot between each of the branches of the median nervure near their origin also black. Posterior wing entirely brown.

Expan.  $3\frac{1}{2}$  in. Hab. Colombia.

In the Collections of W. W. Saunders and W. C. Hewitson.







Fig. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

# HELICONIDÆ.

## HELICONIA. II.

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### HELICONIA HERMATHENA. 5.

UPPERSIDE black. Anterior wing crossed beyond the middle by a broad irregular oblique band of scarlet; a line of dirty yellow commences at the base, and follows the median nervure and a third of its first nervule. Posterior wing with a minute spot of scarlet near the base, crossed transversely a little below it by a band of yellow, intersected by black nervures, and by two curved macular bands of the same colour parallel to and near the outer margin, the inner band composed of oblong spots, the submarginal band of small round spots.

UNDERSIDE as above, except that there are three scarlet spots near the base of the posterior wing instead of one, that there is a line of four or five spots of the same colour from the inner margin to the centre of the wing, midway between the first two bands, and that the costal margin at the base is yellow.

Expan.  $3\frac{4}{10}$  in. Hab. river Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

This butterfly, another of those beautiful species for which we are indebted to Mr. Bates, has the anterior wing nearly the same as *H. Phyllis*, and the posterior wing somewhat like *H. Charitonia*.

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### HELICONIA HECALESIA. 6.

UPPERSIDE black. Anterior wing with ten spots of pale yellow, two near the costal margin beyond the middle, two between them and the outer margin, one, bisected by the subcostal nervure, near the apex, and five in a row parallel to the outer margin. Posterior wing with the inner half brick-red, a row of oblong spots of yellow parallel to the outer margin, and increasing in size from the anal angle to the costal margin.

UNDERSIDE does not differ except that there is a line of yellow on the costal margin at the base of the posterior wing.

Expan.  $3\frac{1}{2}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

HELICONIA HEURIPPA. 7.

UPPERSIDE black. Anterior wing with a broad irregular transverse band of pale yellow, intersected by black nervures from the costal margin where it is deeply sinuated to near the anal angle, followed by a large spot of scarlet, also intersected by black nervures, sinuated and irregular on its outer margin, divided on its inner margin from the yellow band by a nearly straight line of black.

UNDERSIDE as above, except that the scarlet spot is replaced by one of brick-red, and that there is a line of yellow on the costal margin at the base of the posterior wing.

Expan.  $3\frac{1}{2}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

This and the preceding species, both unlike anything before known, were presented to the Society by Mr. T. J. Stevens, of Bogota, and have been very liberally trusted to my care to figure by the Council of the Society.



HELICONIIDAE.  
HELICONIA III



W. C. Howland, del. et lith. 1854

Printed by Hubmandel & Walton

8 HELICONIA ELEUCHIA  
9 HELICONIA WORNARINA      10 HELICONIA ZULEIKA

## HELICONIDÆ.

### HELICONIA. III.

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#### HELICONIA ELEUCHIA. 8.

UPPERSIDE black; the basal half of both wings glossed with blue; anterior wing crossed transversely by two bands of yellow: one band at the middle, irregular, reaching from the subcostal nervure to the anal angle, and divided by black nervures into four unequal parts; the other band between it and the apex, reaching from the costal margin to near the outer margin, also divided into four by black nervures. Posterior wing with a broad outer margin of white, divided by black nervures, and again subdivided on the inner edge by short black lines.

UNDERSIDE as above, except that the anterior wing has a small line of scarlet at the base, and the subcostal nervure marked by a line of yellow from the base to the first band, and that the posterior wing has five spots of scarlet at the base.

Expan.  $3\frac{4}{10}$  in. Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### HELICONIA FORNARINA. 9.

UPPERSIDE dark brown. Anterior wing with a broad, irregular, transverse, double band of yellow at the middle, divided by black nervures into eight unequal parts, one of which is marked by a black spot. The space between the band and the apex and outer margin, marked by ten spots of unequal size, also yellow. Posterior wing with one small round yellow spot near the apex.

UNDERSIDE as above, except that there is an irregular longitudinal rufous band in the middle of the posterior wing, and a second small spot of yellow near the apex.

Expan.  $3\frac{1}{2}$  in.

In the Collection of the British Museum.

HELICONIA ZULEIKA. 10.

UPPERSIDE. Anterior wing dark brown, with numerous unequal spots of pale yellow, arranged in four transverse, slightly-curved, parallel, equidistant bands. Base and inner margin of the wing to beyond the middle, rufous. Posterior wing rufous; the outer margin, and a broad space at the apex which is marked with three small round spots of yellow (one indistinct), dark brown.

UNDERSIDE as above, except that the outer margin of the posterior wing is marked with small square spots of white in pairs.

Expan.  $3\frac{7}{10}$  in. Hab. Nicaragua.

In the Collections of W. W. Saunders and W. C. Hewitson.

This beautiful and very distinct species was accompanied by a *Tithorea*, which scarcely differs from it, except in shape; also by a *Mechanitis*, closely resembling it in general appearance, which I have given as an *Ithomia* by mistake at Fig. 21.





# CATERPILLAR OF WITH AREA & HEMICOMA



From a copy of the original by W. H.

CATERPILLAR OF THE AREA & HEMICOMA  
 WITH AREA & HEMICOMA

## HELICONIDÆ.

### HELICONIA. IV.

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#### TITHOREA TARRICINA. 1.

UPPERSIDE. Male dark brown. Anterior wing with eleven small yellow spots. Three spots in a line transversely at the middle; three in a line obliquely beyond the middle; two near the apex; two near the outer margin, one between each of the transverse lines of spots, and one (a minute one) near the middle of the costal margin. Posterior wing brick red, the costal margin (sometimes to near the middle of the wing), a lunular spot near it beyond its middle, and the outer margin dark brown. Some spots of yellow (sometimes a broad band) divide the red of the wing from the brown of the outer margin.

UNDERSIDE as above, except that both wings have a row of white spots parallel to the outer margin, that the anterior wing has a twelfth spot between the first and second macular bands (sometimes visible on the upperside), and that the costal margin of the posterior wing has its base orange and two small white spots beyond its middle.

The female differs only in size.

Expan.  $3\frac{4}{10}$  in. to  $3\frac{8}{10}$  in. Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

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#### HELICONIA HECUBA. 11.

*H. Hecuba, Boisduval, Ms.*

UPPERSIDE blue-black. Anterior wing with an indistinct line of white from the base outwards. A spot of white between the median nervules; three bifid spots obliquely across the middle; four in a line across the apex, and eight irregularly placed in pairs near the outer margin, all white. Posterior wing with a transverse band of yellow near the middle, divided by the nervures, and several spots of white in pairs near the outer margin.

UNDERSIDE as above, except that the anterior wing has the line at the base much wider, and a second row of white spots near the outer margin from the anal angle to the middle. The posterior wing has the costal margin, from the base to the transverse band, white. A band crosses the wing near the base, yellow from the inner margin to the cell, white in the cell and a little beyond it. Some rufous spots between this band and the central band, which is almost white.

Expan.  $3\frac{4}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

This species is an excellent link to connect the genus *Tithorea* with *Heliconia*. It has the nervures of *Heliconia*, the more bulky form of *Tithorea*, and in colour resembles nearly *T. Bonplandi* and *T. Humboldtii*.

## HELICONIA HERMOGENES. 12.

UPPERSIDE black glossed with blue. Anterior wing with numerous white spots. Two in the cell near its outer end, five or six in a curved band across the middle, and eight or nine in a similar curved band parallel to the other band and the outer margin. Posterior wing with the costal margin rufous, crossed towards the outer margin by a broad curved band of yellow divided by the nervures into seven spots.

UNDERSIDE as above, except that the two spots in the cell are united, the whole of the inner margin broadly lustrous white; that the posterior wing has the costal margin near the base yellow; the costal margin in the middle, the inner margin and a transverse band within and near to the white band all rufous.

Expan.  $3\frac{1}{2}$  in. Hab.

In the Collection of Dr. Boisduval.



# HELICONIDÆ

## HELICONIA V



Heliconia, etc. etc. 11 July 1867

M & N Harbort amp

13 HELICONIA HIPPOLA  
14 HELICONIA HYDARA

15 HELICONIA HYGIANA.  
16 HELICONIA HIMERA

## HELICONIDÆ.

### HELICONIA V.

---

#### HELICONIA HIPPOLA. 13.

UPPERSIDE, ferruginous. Anterior wing with the costal margin, the apex (broadly), the outer margin, a band near and parallel to the inner margin, two large spots within the cell, and two smaller spots below these, all dark brown. Posterior wing with the outer margin and a longitudinal band which crosses the middle of the wing and joins it at the apex, dark brown.

UNDERSIDE as above, except that each pair of spots in and below the cell of the anterior wing are united in one, and that there is a narrow band of brown near the costal margin, and below it a broad band of the same colour which joins the central band and outer margin at the apex.

Exp.  $3\frac{2}{10}$  inch.

In the Collection of W. C. Hewitson.

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#### HELICONIA HYDARA. 14.

UPPERSIDE, dark brown. Anterior wing crossed by a broad transverse scarlet band. Posterior wing marked outside the cell by a small scarlet spot.

UNDERSIDE as above, but paler.

Exp.  $2\frac{1}{2}$  inch. Hab. New Granada.

In the Collection of W. C. Hewitson.

HELICONIA HYGIANA. 15.

UPPERSIDE, black. Anterior wing with a narrow linear longitudinal band from the base, an oblique irregular band at the middle, and a trifid spot before the apex, all pale yellow. Posterior wing crossed before the middle by a broad band of orange.

UNDERSIDE as above, except that it is paler, that there are some rays of lilac-white near the apex, and a scarlet spot at the base of the costal margin of the anterior wing: that the band of the posterior wing is much paler, and is extended to the costal margin by spots of lilac: that there are double rays of paler colour between each of the nervures below the band, and four scarlet spots at the base.

Exp.  $2\frac{9}{10}$  inch. Hab. Quito.

In the Collections of W. W. Saunders and W. C. Hewitson.

This species differs from *H. Clysonyma*, to which it is most nearly allied, in having the linear band at the base as well as the sub-apical spot.

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HELICONIA HIMERA. 16.

UPPERSIDE, black. Anterior wing crossed at the middle by an hexafid band of pale yellow. Posterior wing with a transverse band of carmine near the base.

UNDERSIDE as above, except that the anterior wing has the transverse band white: that the posterior wing has the base of the costal margin yellow, and is tinted with carmine in place of the transverse band of the upperside.

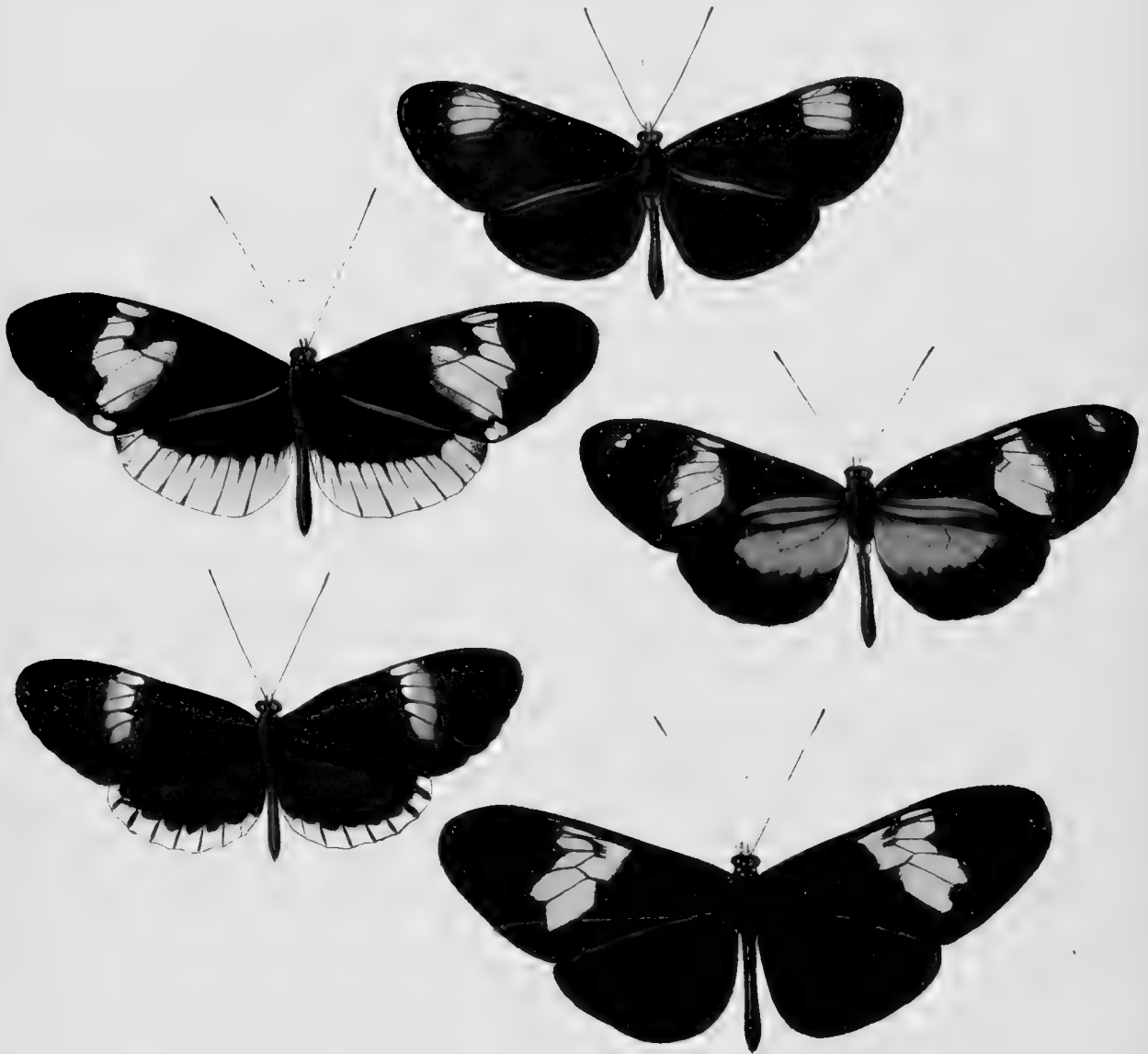
Exp.  $2\frac{1}{2}$  to 3 inch. Hab. Ecuador.

In the Collection of W. C. Hewitson.





# HEBILICONTIA



HEBILICONTIA CYTHEBA

HEBILICONTIA CYTHEBA

17. HEBILICONTIA CYTHEBA

18. HEBILICONTIA ALIBIA

19. HEBILICONTIA ALIBIA

20. HEBILICONTIA UNIMACULATA

21. HEBILICONTIA UNIMACULATA

# HELICONIDÆ.

## HELICONIA VI.

### HELICONIA CYTHERA. 17.

*Heliconia Cythera*, Hewitson. *Equatorial Lepidoptera*, p. 9.

UPPERSIDE. Male, black glossed with blue. Anterior wing crossed transversely beyond the middle by a quinquefid band of carmine and white: the outer margin with minute white spots. Posterior wing with the outer margin lilac-white, intersected at the end of the nervures by distinct broad black lines.

UNDERSIDE as above, except that the band of the anterior wing is paler, and that the posterior wing has the base of the costal margin and a longitudinal band before the middle, yellow.

Exp.  $2\frac{9}{10}$  inch. Hab. Ecuador. (Angus, Buckley.)

In the Collection of W. C. Hewitson.

Very near to *H. Cyrbia*, but differs from it in having the anterior wing narrower, the outer margin spotted with white only, whilst *Cyrbia* has the fringe altogether white, and in having the white outer margin of the posterior wing broader and not intersected by black lines between the nervures.

### HELICONIA ALITHEA. 18.

*Heliconia Alithea*, Hewitson. *Equatorial Lep. p.* 10.

UPPERSIDE dark brown, tinted with blue near the base of both wings. Anterior wing crossed at the middle by a broad irregular band of yellow, divided by black nervures into eight parts (one of which is within the cell), increasing in size from that on the costal margin, which is bifid: a spot below these at the anal angle also yellow. Posterior wing with the outer margin broadly yellow, intersected by the nervures, which are black, and divided on its inner border, between these, by black lines.

UNDERSIDE as above, except that the anterior wing has the band almost white, and a submarginal band of white spots, and that the posterior wing has the base of the costal margin yellow, a short longitudinal band of brick-red from the inner margin, and the band of the outer margin white.

Exp.  $3\frac{4}{10}$  inch. Hab. Ecuador. (Jorge, Buckley.)

In the Collections of W. W. Saunders and W. C. Hewitson.

This species was previously in the Collection of Mr. Saunders, and belongs to the group of which *H. Cydno* and *Sappho* form part.

### HELICONIA UNIMACULATA. 19.

*Heliconia Unimaculata*, Hewitson. *Equatorial Lep. p.* 10.

UPPERSIDE. Male, dark brown. Anterior wing with a quadrate quinquefid yellow spot beyond the middle and near the costal margin bordered outwardly with carmine.

UNDERSIDE as above, except that the anterior wing has the base of the costal margin carmine, and the spot without its carmine border: that the posterior wing has the costal margin yellow at the base, and two carmine spots near it.

Exp.  $2\frac{2}{10}$  inch. Hab. Ecuador. (Canelos, Buckley.)

In the Collection of W. C. Hewitson.

Unlike any other species: may be a variety of *H. Notabilis*.

## HELICONIA HIERAX. 20.

*Heliconia Hierax*, Hewitson. *Equat. Lep. p.* 11.

UPPERSIDE black. Anterior wing with a band of scarlet (divided by the submedian nervure) from the base outwards; crossed at the middle (at a right angle with the costal margin) by an irregular band of yellow (as in *H. Clysonyma*), commencing on the costal margin by a separate spot, and divided by black nervures into six parts: a small subapical trifid spot of yellow. Posterior wing crossed near the base by a broad band of scarlet, divided into seven parts by the nervures which are black.

UNDERSIDE pale brown. Anterior wing with the band and spot as above. Posterior wing with the base of the costal margin yellow: two scarlet spots near the base: indistinct rays of grey-white on both sides of the nervures from the middle to a series of submarginal white spots.

Exp.  $3\frac{2}{10}$  inch. Hab. Ecuador. (Rio Topo, Buckley.)

Near to *Clysonyma*; too near to *Himera* of Hewitson to be specifically distinct.

## HELICONIA TIMARETA. 21.

*Heliconia Timareta*, Hewitson. *Trans. Ent. Soc. p.* 563, 1867.

UPPERSIDE black. Anterior wing with one large central angular white spot, divided by the nervures, which are black, into seven unequal parts, five of which are above the median nervure: one, larger than the rest, within the cell, one above the subcostal nervure, and three (one of which is very minute) below this; the other two portions, which are below the median nervure, are large, and separated by the second median nervule.

UNDERSIDE dark brown. Wings as above, except that the anterior wing has a scarlet spot at the base of the costal margin, and that the posterior wing is pale yellow at the base of the costal margin, and has four scarlet spots at the base of the wing.

Exp.  $3\frac{1}{2}$  inch. Hab. Ecuador. (Buckley.)

In the Collection of W. C. Hewitson.

Not unlike *H. Hewippa* of Hewitson, if that species were deprived of its red spots. Some small examples have the spot within the cell of a different form.



THEORY OF CONJUGATED  
TYPHOEA & HELICONTIA VII



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## HELICONIDÆ.

### TITHOREA AND HELICONIA. VII.

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#### TITHOREA TAMASEA. 1, 2, 3.

UPPERSIDE. Male, black. Both wings crossed beyond the middle by a series of pale yellow spots: both with white spots on the fringe. Posterior wing crossed near the base by a transverse hexafid band of pale yellow.

UNDERSIDE as above, except that both wings are crossed by a submarginal series of lilac-white spots: that the anterior wing has a longitudinal ochreous band from the base and two rufous spots (one large) near the apex: that the posterior wing has an ochreous band near the base parallel to the costal margin and a broad rufous band beyond the middle preceding the yellow spots.

Female like the male except that it is larger, that the band near the base of the posterior wing is broken into isolated spots one of which is partly rufous and that on the underside the rufous colouring covers a much larger space.

Exp.  $3\frac{4}{10}$  inch. Hab. New Granada. (Villagomes.)

In the Collection of W. C. Hewitson.

It is I think most probable that the ordinary female will resemble the male of the figure and that the female now figured is a variety. I have a variety of the male exactly similar.

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#### HELICONIA TEMERINDA. 23.

UPPERSIDE. Male, blue-black. Anterior wing with a spot in the cell, a transverse irregular band divided into nine parts beyond the middle, a submarginal series of seven ill-defined spots and between them and the margin three or four indistinct linear spots all lilac-white. Posterior wing crossed near the outer margin by a band of yellow divided into seven distinct portions by the nervures.

UNDERSIDE as above, except that the anterior wing from its median nervure and its first branch to the inner margin is pale grey and brown: that the base of the costal

margin of the posterior wing is yellow, that there is a rufous ring round its centre, and that the yellow band is almost white.

Exp.  $3\frac{1}{2}$  inch. Hab. New Granada. (Villagomes.)

In the Collection of W. C. Hewitson.

With this species there is a variety in which the band and white spots of the anterior wing are yellow, also varieties of *T. Humboldtii* in which the bands and spots of both wings are bright yellow.

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## HELICONIA CHOARINA. 24, 25.

*Heliconia Choarina.* Hewitson. *Entom. Mon. Mag. Vol. IX. p. 83* (1872).

UPPERSIDE. Black: Anterior wing tinted with blue; an irrorated band of white from the base: crossed beyond the middle by a curved irregular band of six white spots three of which are bifid and by a submarginal band of white spots (some in pairs). Posterior wing crossed beyond the middle by a broad band divided by the nervures into eight spots six of which are pale yellow, the two nearest the apex white: a submarginal series of white spots in pairs between the middle of the wing and the anal angle.

UNDERSIDE as above except that it is rufous-brown, that the band from the base of the anterior wing is broader and has below it a spot which is attached to the lowest spot of the central band and that there is a marginal series of white spots in pairs: that the posterior wing has the base of the costal margin white, is crossed before the middle by a lilac-white band, and has the transverse band white.

Exp.  $3\frac{4}{10}$  inch. Hab. Ecuador. (Buckley.)

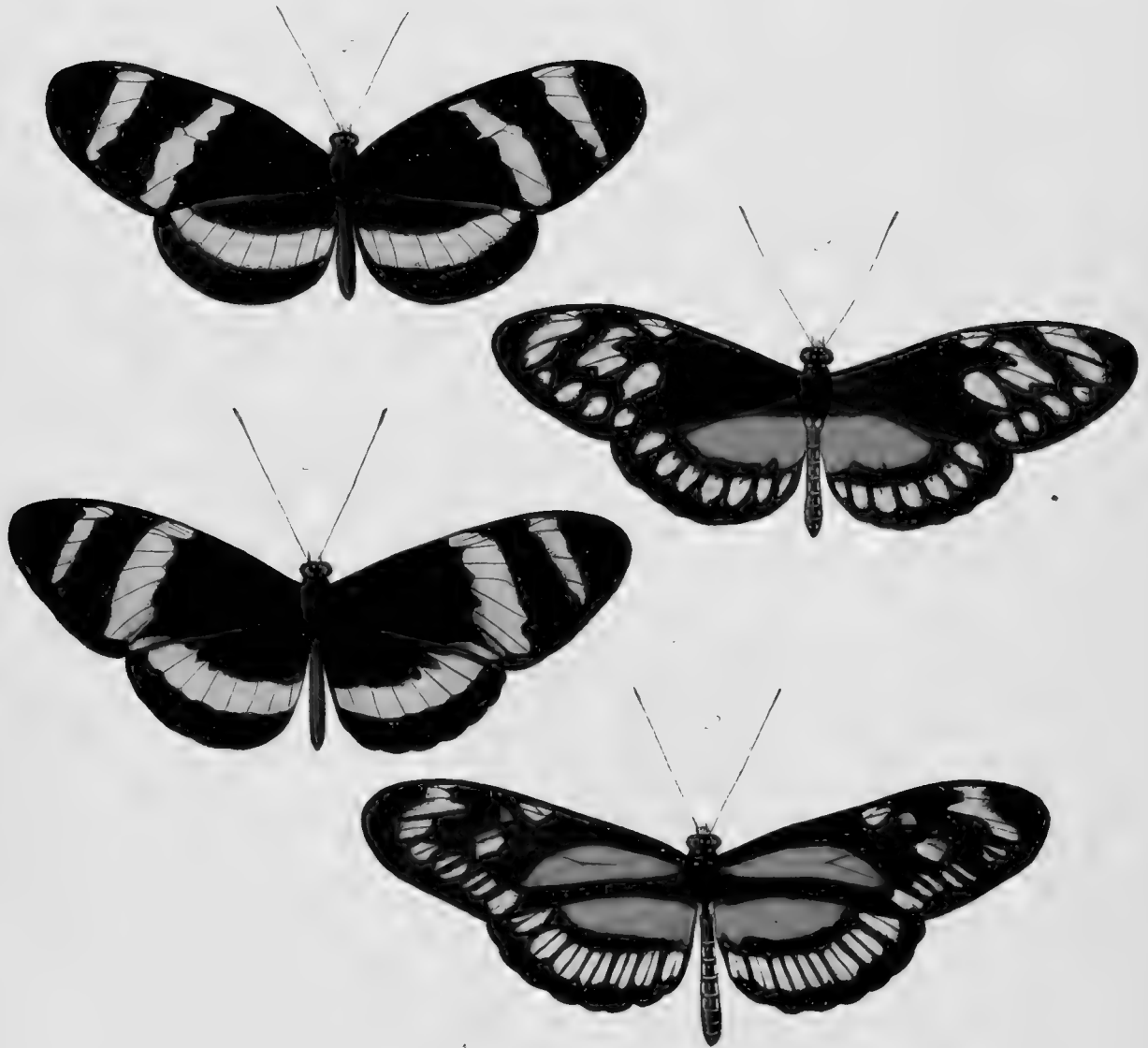
In the Collection of W. C. Hewitson.

This adds a third species to that very rare groupe represented hitherto by *H. Cassandra* and *H. Hecuba* which so much resemble *Tithorea Humboldtii* and *Bonplandii*.





HYALINAE  
HELICONIA



10. Heliconia (see under 1828)

11. Heliconia

12. HELICONIA PACHINUS  
13. HELICONIA HEWITSONI

14. HELICONIA LYNAEIA  
15. HELICONIA LONGARENA

# HELICONIDÆ.

## HELICONIA. VIII.

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### HELICONIA PACHINUS. 26.

*Heliconius Pachinus*, Salvin, *Annals and Magazine of Natural History*, 1869.

UPPERSIDE black, tinted with blue on the basal half of the anterior wing: anterior wing crossed at the middle *beyond the end of the cell* from the costal margin to near the anal angle where there are two yellow spots by a broad equal band of yellow divided into *nine parts* (three of which are above the costal nervure) by the nervures: crossed near the apex by a quinquefid band of yellow. Posterior wing crossed beyond the middle parallel to the outer margin by a broad band of yellow divided into eight parts by the nervures.

UNDERSIDE as above except that the anterior wing is scarlet at the base of the costal margin and has some white spots near the outer margin from the middle to the anal angle: that the posterior wing has the base of the costal margin and a quinquefid basal spot scarlet and is tinted with blue which is traversed by a series of indistinct white spots near the outer margin.

Exp.  $3\frac{1}{2}$  inch. Hab. Chiriqui.

In the Collection of W. C. Hewitson.

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### HELICONIA HEWITSONI. 27.

*Heliconia Hewitsoni*, Staudinger, *MS.*

UPPERSIDE black tinted with blue on the basal half of the anterior wing. Anterior wing crossed by two bands of yellow: the first near the middle from the costal nervure to near the anal angle divided into *four parts* by the nervures *the first part within the cell*: the second band near the apex quinquefid. Posterior wing crossed beyond the middle parallel to the outer margin by a broad band of yellow divided into eight parts by the nervures.

UNDERSIDE as above except that the anterior wing has the base of the costal margin scarlet and a ray of ochreous yellow from the base to the central band: that the posterior wing has the base of the costal margin and a quinquefid basal spot scarlet.

Exp.  $3\frac{7}{10}$  inch. Hab. Chiriqui.

In the Collection of W. C. Hewitson.

I had given this species another name, when I received notice from Dr. Staudinger that he had already described it as it now stands, accompanied by the assurance that his description would be published before the appearance of this, otherwise the present name would certainly not have been adopted by me.

HELICONIA GYNAESIA. 28.

*Heliconia Gynaesia*, Hewitson, *Entom. Mon. Mag.*, page 182, 1875.

UPPERSIDE dark brown. Both wings crossed near the outer margin by a series of yellow spots: irregular in size on the anterior wing: regular, seven in number and cordate on the posterior wing. Anterior wing with a trifid spot at the middle of the costal margin, a larger trifid spot below this and a pyriform spot between the first and second branches of the median nervure: all yellow. Posterior wing crossed near the base by a broad band of orange.

UNDERSIDE as above except that the base of the costal margin of the anterior wing is yellow: the base of the posterior wing orange.

Exp.  $3\frac{6}{10}$  inch.

In the Collection of W. C. Hewitson.

I purchased this species at the sale of the Norris collection and do not know its locality.

HELICONIA LONGARENA. 29.

*Heliconia Longarena*, Hewitson, *Ent. Mon. Mag.*, page 182, 1875.

UPPERSIDE black. Both wings crossed near the outer margin by a series of longitudinally bifid pale yellow spots: irregular on the anterior wing where it commences by a larger trifid spot: regular on the posterior wing where it is composed of seven spots. Anterior wing with a large scarlet spot from the base divided into three parts by the median nervure and its first branch, an oblique band of three pale yellow spots at the middle, the first spot near the costal margin trifid, the third bifid, all more or less irrorated with brown. Posterior wing crossed near the base by a broad scarlet band.

UNDERSIDE as above, except that the base of the costal margin of the anterior wing is orange: the base of the posterior wing yellow succeeded by orange.

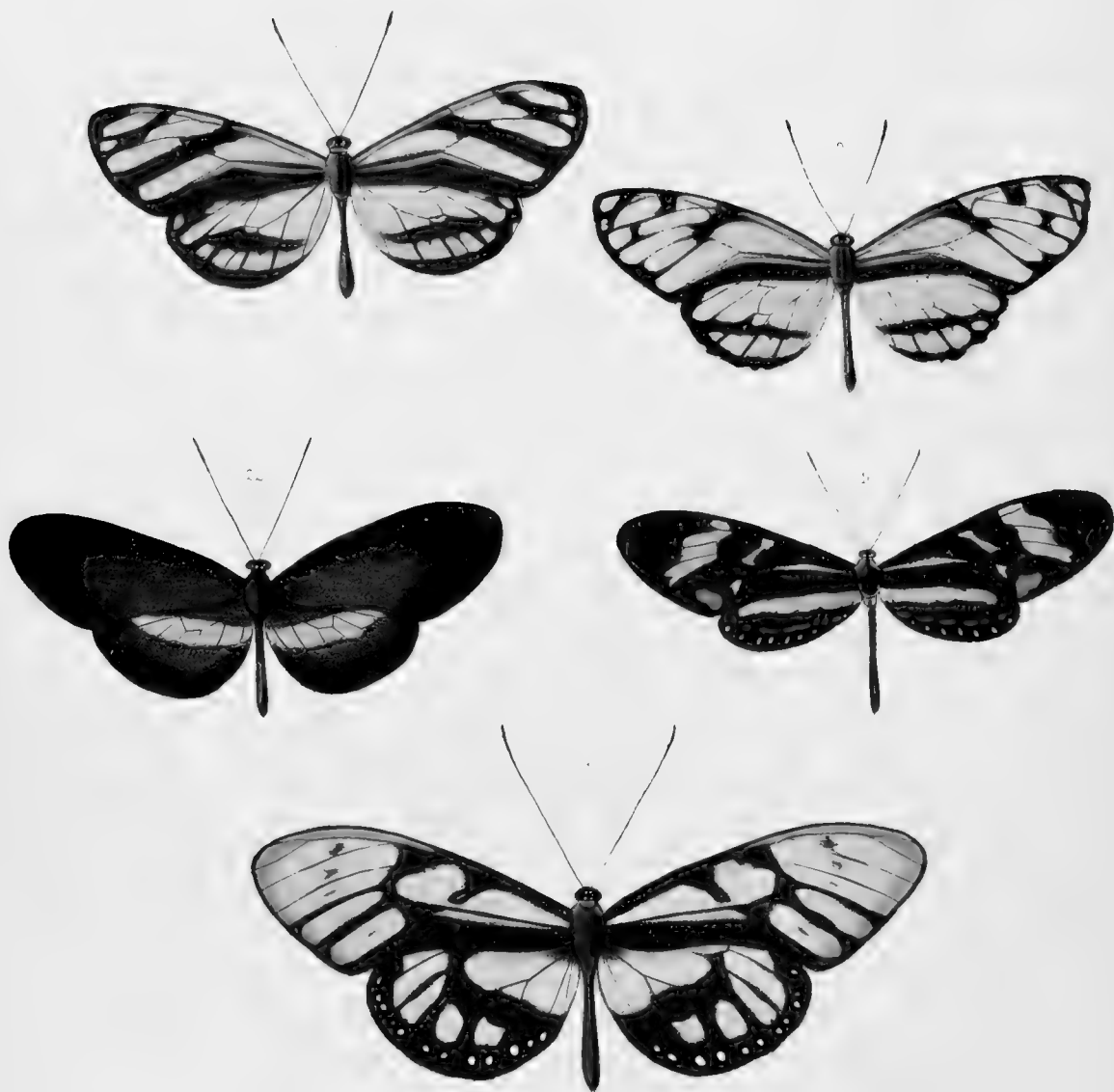
Exp.  $3\frac{8}{10}$  inch. Hab. New Granada.

In the Collection of W. C. Hewitson.

I am indebted to Mr. James Backhouse of York for this very beautiful species.



# *Heliconia*



*Heliconia*

*Heliconia*

*Heliconia*

*Heliconia*

# HELICONIDÆ.

## ATHESIS ACRISIONE. 1.

*Athesis Acrisione, Hewitson. Equat. Lep. p. 12, 1869.*

UPPERSIDE. Male, transparent rufous-white. Anterior wing with the costal margin to the middle, the inner margin which is broad, the outer margin which is narrow, a band at the middle of the cell, a band at the end of the cell, the three branches of the median nervure, and the median nervure between them all black: the apex and the costal and outer margins to their middle rufous-orange: two or three indistinct subapical black spots. Posterior wing with a broad band at the middle, the outer margin which is broad, and the nervures between them black: a submarginal series of twelve white spots.

UNDERSIDE as above, except that the anterior wing has some small white spots at the apex and on the outer margin towards the anal angle, and that the costal margin of the posterior wing is yellow from the base to the middle, and rufous beyond.

Female does not differ from the male.

Exp.  $3\frac{7}{10}$  inch. Hab. Ecuador. (Villano, Buckley.)

In the Collections of W. C. Hewitson and W. W. Saunders.

## ATHESIS DERCYLLIDAS. 2, 3.

♀ *Dircenna Dercyllidas, Hewitson. Trans. Ent. Soc. 3 Ser. Vol. II. Plate 16, f. 4, p. 248.*

UPPERSIDE. Male, transparent rufous-white: the margins black. Anterior wing with the costal margin and the inner border of the inner margin which is broad, rufous: the nervures, a band at the end of the cell, a spot beyond it on the costal margin, a subapical band, a spot between the discoidal nervures and a spot on the outer margin between the median nervules all black. Posterior wing crossed obliquely from the inner margin to below the apex by a band of black, the nervures between this band and the outer margin broad and black.

UNDERSIDE as above, except that the margins and bands are rufous and that the costal margin of the posterior wing is pale green interrupted below the middle by a black spot.

Female as above, except that the anterior wing is much broader, the space between the second and third branches of the median nervule and the apex also black.

Exp.  $2\frac{7}{10}$  inch. Hab. Ecuador.

In the Collection of W. C. Hewitson.

HELICONIA CHESTERTONII. 22.

UPPERSIDE blue with the margins broadly dark brown. Posterior wing crossed transversely before the middle by a band of pale yellow divided by the nervures into eight parts.

UNDERSIDE brown: the band paler, extending in a point to a little above the apex.

Exp.  $2\frac{7}{10}$  inch. Hab. Columbia. (Chesterton.)

In the Collections of W. W. Saunders and W. C. Hewitson.

Named after Mr. Chesterton, who first made it known to us and is now in Columbia doing his best to add to our treasures.

MECHANITIS MANTINEUS. 16.

*Mechanitis Mantineus*, Hewitson. *Equat. Lep. p.* 12, 1869.

UPPERSIDE. Male, black. Anterior wing with a linear spot from the base, an oblong spot within the cell, a small spot below this, and an irregular oblique band beyond the middle pale semitransparent yellow: an orange spot near the anal angle. Posterior wing crossed before the middle by a straight band of pale yellow: beyond the middle by a broken band of orange spots and by a submarginal series of white spots.

UNDERSIDE as above, except that the anterior wing has a submarginal series of white spots, and that the posterior wing has the base yellow.

Exp.  $2\frac{7}{10}$  inch. Hab. Ecuador. (Angus, Buckley.)

In the Collections of W. C. Hewitson and W. W. Saunders.







## HELICONIDÆ.

### MECHANITIS. *Fabricius.*

---

#### MECHANITIS MENAPIS, 1.

UPPERSIDE. Female, black. Anterior wing with a small space of orange at the base (more or less distinct); an oblique band before the middle, narrow and yellow where it crosses the cell, broad and orange below it; followed by three oblong spots of yellow, two in the form of a second oblique band, the third across the apex. Posterior wing with the base broadly orange. Both wings with a submarginal row of minute white spots.

UNDERSIDE as above, with the submarginal spots more distinct.

The Male has the wings longer in proportion to their breadth.

Expan.  $2\frac{8}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

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#### MECHANITIS MENOPHILUS, 2, 3.

UPPERSIDE (fig. 3). Male, orange. Anterior wing from the base to beyond the middle orange, followed by and united to a broad oblique band of pale yellow, dentated or sinuated on its outer edge. The margins (the inner margin broad), from the base to the middle; a triangular spot within the cell; four spots (one on the yellow) at the middle of the wing; sometimes a fifth (a small one) on the costal margin; and the apex; black. Posterior wing with two macular longitudinal bands of black from the inner margin to beyond the middle.

UNDERSIDE as above, except that the posterior wing has the costal margin at the base yellow, and a line and spot of black also near the base.

The Female differs only in being without the yellow at the base of the posterior wing on the underside.

Expan.  $2\frac{9}{10}$  to  $3\frac{7}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

This species varies greatly in size. Fig. 2, though a female, does not mark a sexual distinction, but one to which several of the Heliconidæ are subject. A male in my collection is similarly coloured with black, and is larger than the same sex at fig. 3.

MECHANITIS MESSATIS, 4.

UPPERSIDE. Female. Anterior wing black, with numerous spots of white; from the base to the middle of the cell (except the costal margin, which is black), bounded by the first median nervule, and ending in a point before it reaches the outer margin, with a part of the costal margin, orange. The spots form three irregular oblique bands across the wing; the first band of three spots, the first of which crosses the cell, the third is near the anal angle; the second and third bands each of three spots, those near the costal margin bifid; two spots near the apex, and a submarginal row of six smaller spots placed in pairs. Posterior wing orange, with a curved band of black from the costal margin to the middle of the third median nervule. The outer margin broadly black, with a row of minute indistinct white spots.

UNDERSIDE, as above, with the submarginal spots continuous and much more distinct; the base of the posterior wing marked with a yellow spot and a black line, which is united to the curved band described above.

The male I have not seen.

Expan.  $3\frac{6}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

This, the most beautiful species of its genus, has a considerable resemblance to *Heliconia Ismenius* of Latreille. With many more new species which we hope to publish, this formed part of a very fine collection of butterflies made by Mrs. Mark during a residence at Bogota.

MECHANITIS MNASIAS, 5.

UPPERSIDE. Male. Anterior wing with a large spot at the base, and two small spots between it and the outer margin, touching the first median nervule, orange; an oblong oblique spot across the cell; a spot below it united to a curved, broad, irregular, transverse band beyond the middle; light transparent yellow. Posterior wing orange, transparent at the base, with a longitudinal band across the middle, and the outer margin, black. Both wings with a submarginal row of distinct white spots.

UNDERSIDE as above, except that the orange at the base is united to and forms one with the two small spots described above, and that there is a band of black near the costal margin of the posterior wing, from the base till it is united to the central band.

Expan.  $2\frac{15}{20}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.





## HELICONIDÆ.

### MECHANITIS. II.

---

#### MECHANITIS MAELUS. 6. 9.

UPPERSIDE. Female, fig. 9, black. Anterior wing with the costal nervure, the median nervure and its first branch, a spot at its termination, a band (which having its origin on the costal margin), joins it; all brick-red; followed by a zig-zag band of pale yellow, by a band of brick-red, by three spots (one bifid) of pale yellow near the apex, and lastly, by a submarginal band of bifid brick-red spots. A spot of pale yellow at the anal angle. Posterior wing with a band on the costal margin from the base to the apex, where it is joined by a second longitudinal band; two linear spots near the outer margin, and some of the nervures all brick-red; a black spot near the apex.

UNDERSIDE as above.

Variety, fig. 6, with the red bands much brighter, the pale-yellow spots near the apex absent, the larger bifid spot near the costal margin represented by two minute spots; the pale-yellow spot at the anal angle absent. The posterior wing from the second band to the outer margin marked by a band of oblong spots from the anal angle to the middle of the wing. The outer margin marked at the terminus of each nervule with a minute black spot. The underside as above.

Expan.  $3\frac{3}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

#### MECHANITIS MÆNIUS. 7.

UPPERSIDE. Male black. Anterior wing with the costal and median nervures from the base to their junction with a band of the same colour, which crosses the wing at the middle, brick-red. The said band marked by a triangular black spot, and followed (touching it) by a band of pale yellow. The margins of the two bands, where they meet, marked by three black spots common to both. Posterior wing with two longitudinal bands, two spots at the apex and part of the nervures brick-red. The first band, which commences on the inner margin near the base, and runs near the costal margin, ends above one of the spots at the apex. The second band is central and short.

UNDERSIDE as above, except that the red spots at the apex of the posterior wing are united, and the second band is extended to the inner margin.

Expan.  $3\frac{3}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

MECHANITIS MAZÆUS. 8.

UPPERSIDE. Female rufous orange. Anterior wing with a band near and parallel to the inner margin; two spots (one within the cell); a large oblong spot from the costal margin to the middle of the wing, with below it a band keeping the line of the second median nervule; all black. The apex broadly black, crossed by a rufous band. Posterior wing crossed in the middle by a broad longitudinal band of black divided by some rufous nervules. The outer margin broadly black from the anal angle to the middle, followed by two or three black spots.

UNDERSIDE as above, except that there is a row of minute white spots on the outer margin of both wings.

Expan.  $3\frac{3}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

MECHANITIS MARSÆUS. 10.

UPPERSIDE. Male black. Anterior wing with the costal nervure; a band which accompanies the median nervure and its first branch to the outer margin, joining a second band which has its origin on the costal margin; all orange—followed by a broad irregular transverse band of pale yellow, and by three piriform orange spots near the apex. Posterior wing with a band on the costal margin at its base, a broad longitudinal band in the middle; a submarginal band from the anal angle to the middle of the wing, on the outer margin, and a lunular spot near the apex; all black.

UNDERSIDE as above, except that there is a second band of bifid-rufous spots on the anterior wing, nearer the margin than those described.

Expan. 3 in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.







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## HELICONIDÆ.

### MECHANITIS. III.

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#### MECHANITIS MACRINUS. 11.

UPPERSIDE. Male. Anterior wing black. The base and the inner margin, to the first median nervule, orange. The costal margin, a spot in the cell, and a band near and parallel to the inner margin, black; followed (touching it) by a broad band of pale yellow, a small oblong spot beyond the middle, and a transverse band near the apex, also yellow. Posterior wing orange, with a longitudinal band, and the outer margin (which is broad) black. Two minute white spots near the middle of the outer margin.

UNDERSIDE as above, except that the posterior wing has the base yellow; the base of the subcostal nervure black, and a small black spot near the apex; that it has no longitudinal band, and that both wings have a submarginal band of distinct white spots.

Expan.  $2\frac{9}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

There is a variety of this species without the longitudinal black band of the posterior wing.

---

#### MECHANITIS MANSUETUS. 12.

UPPERSIDE. Female orange. Anterior wing with the base of the costal margin, a band near the base of the inner margin, a spot in the cell, a spot below it, two spots at the end of the cell connected by a black line, all black; followed (touching the two black spots) by a transverse band of pale yellow, broad above, narrow and linear on its approach to the outer margin. From this band to the apex black, with three minute yellow spots near the outer margin. Posterior wing, with part of the costal margin, a broad band from the inner margin to the middle of the wing crossed by rufous nervures, and a band of triangular spots on the outer margin, black.

UNDERSIDE as above, except that there are some white spots on the black of the outer margin of the posterior wing.

Expan.  $2\frac{8}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

MECHANITIS MENECLIS. 13.

UPPERSIDE. Female. Anterior wing black, marked with five spots of light yellow. One spot within the cell; a second between the median nervules (with near it a small rufous spot); a third spot on the costal margin; the fourth near the middle of the outer margin; the fifth, near the apex, trifold. A submarginal row of small white spots. A large rufous space at the base, the submedian nervure which crosses it black. Posterior wing, with the outer margin, and two small spots near the costal margin, black.

UNDERSIDE as above, except that the posterior wing is crossed longitudinally by five black spots; that there is a black spot at the end of the cell (within it), and a submarginal row of white spots.

Expan.  $2\frac{8}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

MECHANITIS MOTHONE. 14.

UPPERSIDE. Male black. Anterior wing crossed by a very broad rufous band, marked with four black spots, and deeply sinuated where it touches the outer margin. Posterior wing with the apex rufous.

UNDERSIDE as above, except that the rufous spot on the apex of the posterior wing is extended to the middle of the costal margin.

Expan. 3 in. Hab. New Granada.

In the Collection of W. C. Hewitson.

---

MECHANITIS METERUS. 15.

UPPERSIDE. Female black. Anterior wing crossed at the middle by a very broad band of orange, marked with three black spots (one within the cell), and deeply sinuated where it nearly touches two yellow spots on the middle of the outer margin. Posterior wing with the apex broadly orange, marked with a black spot.

UNDERSIDE as above.

Expan.  $3\frac{1}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.



# TEUCHIA

1894



1894

Forney, C. & Walton.

TEUCHIA L. 1894  
 1. TEUCHIA L. 1894  
 2. TEUCHIA L. 1894

TEUCHIA L. 1894  
 3. TEUCHIA L. 1894  
 4. TEUCHIA L. 1894

## HELICONIDÆ.

### ITHOMIA. *Hubner.*

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#### ITHOMIA ONEGA. 1.

UPPERSIDE deep black. Anterior wing with a triangular spot at the base, an oblong one across the cell, a band obliquely across the wing beyond the middle, and a small spot within the lower end of the same, transparent white, tinged with purple. Posterior wing with a horizontal, transparent belt, which occupies the whole of the inner margin.

UNDERSIDE as above, except that the anterior wing has a rufous line parallel to the outer margin, and a similar line of the same colour surrounds the posterior wing except on the inner margin, and that both wings have three or more dots of white on the apical margin.

Expan.  $2\frac{1}{10}$  in. Hab. River Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

#### ITHOMIA ILLINISSA. 2.

UPPERSIDE. Anterior wing dark brown, with a large triangular rufous patch at the base, cut in two by the median nervure, and six transparent spots, one oblong within the cell, two (one double) half way between it and the apex near the costa; one (double) oblong near the apex, and two between it and the anal angle, white or tinged with purple. Posterior wing rufous, the margin and a line parallel to it dark brown.

UNDERSIDE. As above, except that there are three or four dots of white at the apical angle of both wings, and that the submarginal black line passes round the posterior wing except on the inner margin.

Expan. 2 in. Hab. Amazon.

In the Collection of W. C. Hewitson.

---

#### ITHOMIA SAREPTA. 3.

UPPERSIDE. Anterior wing with the basal half transparent-rufous, bordered with black. The apical half crossed obliquely by a broad orange band, also bordered with black, except on the costal margin; the apex with three or four indistinct transparent dots. Posterior wing transparent with the nervures strong and black, the outer margin broadly black with central belt of orange.

Expan.  $1\frac{9}{10}$  in. Hab. Amazon.

In the Collection of W. C. Hewitson.

---

ITHOMIA EGRA. 4.

UPPERSIDE. Anterior wing black. A triangular patch at the base, a large oblong spot across the cell, a curved band commencing on the costa beyond the middle and reaching to nearly the anal angle, deeply sinuated inwardly, outwardly taking the bend of the outer margin, divided by the nervures into six unequal oblong spots, the fourth from the costa not half the length of the rest, all transparent tinged with purple. Posterior wing transparent tinged with purple, with a broad border of orange, edged with black.

UNDERSIDE. Anterior wing with a curved line at the end of the cell, and a belt parallel to the outer margin rufous. Posterior wing with the orange border extending along the upper margin. Both wings with two or three white lunules, each on the margin below the apex.

Expan.  $1\frac{9}{10}$  in. Hab. River Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

This butterfly is nearly allied to Cramer's *Flora*, and is possibly only a variety of that species.

---

ITHOMIA GALITA. 5.

UPPERSIDE transparent, tinged with purple. Anterior wing with the upper and outer margins, the space between the median nervure, its first nervule and the inner margin a broad, triangular, oblique band at the end of the cell, and the second and third median nervules (which are much thicker than the rest) black. Posterior wing with a broad rufous border, edged with black.

UNDERSIDE. Anterior wing rufous, where black above. Posterior wing with the rufous border extending along the upper margin. Both wings with the white lunules on the margin below the apex.

Expan.  $1\frac{9}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

ITHOMIA SISERA. 6.

UPPERSIDE transparent, ferruginous. Anterior wing with the upper, outer, and part of the inner margin black, a narrow triangular belt across the end of the cell, and the second and third median nervules (which are slightly thickened and curved) black. Posterior wing with a very broad border of orange, edged with black.

UNDERSIDE. Anterior wing with the centre of the triangular belt and of the black margin at the apex, rufous. Posterior wing with the rufous border extending along the upper margin.

The usual white spots near the apex of both wings.

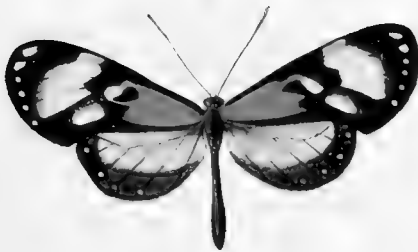
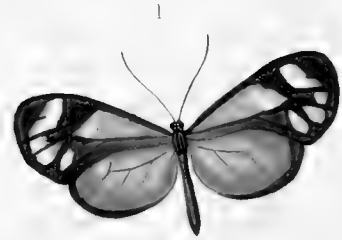
Expan.  $1\frac{9}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.





5, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000



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& BIRMINGHAM

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& BIRMINGHAM

## HELICONIDÆ.

### ITHOMIA II.

---

#### ITHOMIA ÆLIA. 1.

UPPERSIDE. Anterior wing with a large triangular transparent, slightly rufous space, from the base to nearly the end of the cell, where it gives place to a spot of white; the rest black, with a curved band of four transparent unequal spots of lilac-white. Posterior wing rufous, lightest in the middle, and bordered with black, except on the inner margin.

UNDERSIDE. Differs from the upperside in having a line of lilac-white at the apex of each wing.

Exp.  $1\frac{7}{10}$  in. Hab. River Amazon.

In the Collection of Mr. Bates.

This species is nearly allied to *Ithomia Illinissa* of this work. In colour they scarcely differ.

---

#### ITHOMIA PATILLA. 2.

UPPERSIDE. Anterior wing black, crossed by two broad bands. One from the base to near the anal angle transparent rufous-white; the other from the costal margin at the end of the cell to near the middle of the outer margin, the upper part of an opaque white, the lower part transparent and divided by a strong black nervure. Posterior wing transparent rufous-white, broadly bordered (except on the inner margin) with black with three or four points of white upon the outer margin.

UNDERSIDE. As above, except that the margins of both wings are rufous.

Exp.  $2\frac{2}{10}$  in. Hab. Mexico.

In the Collection of W. W. Saunders.

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#### ITHOMIA LEILA. 3.

UPPERSIDE. Anterior wing black with two broad transparent bands as in the last species. One from the base to near the anal angle; the other (the upper part of which is opaque white) from the costal margin at the end of the cell to near the middle of the outer margin. Between the lower end of these bands a large oval transparent spot. The apex with one or two white points.

Posterior wing narrow, and of unusual length, transparent, broadly bordered with black, except on the inner margin, with a submarginal row of white points.

UNDERSIDE. With the whole space which is black above, rufous.

Exp.  $2\frac{1}{2}$  in. Hab. Mexico.

In the Collection of W. W. Saunders.

---

#### ITHOMIA FIAMMETTA. 4.

UPPERSIDE. Anterior wing black, with a large triangular space of orange at the base, followed by a triangular black spot, two small spots of a glossy, transparent, white, and a broad band across the wing of the same colour. Posterior wing transparent and glossy, broadly bordered (except at the base of the inner margin) with black. Both wings with a submarginal row of white points.

UNDERSIDE. As above.

Exp.  $2\frac{1}{10}$  in. Hab. South America.

In the Collection of W. C. Hewitson.

I bought this very beautiful and distinct species at a sale, and know not of what part of South America it is a native. By the nervures of the underwing it would come under Doubleday's genus Sais; I am unwilling to separate it from Ithomia.

---

#### ITHOMIA THEA. 5.

UPPERSIDE. Anterior wing black, with a large triangular space of orange at the base; a large irregular spot of yellow beyond the middle deeply sinuated on the inner margin, dentated on the outer margin. Posterior wing orange, the margins (except the inner one near the base) and a belt near and parallel to them, black. Both wings with a submarginal row of white points.

UNDERSIDE, as above.

Exp.  $2\frac{1}{10}$  in. Hab. River Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

Nearly allied to N. Ninonia of Hubner.

---

#### ITHOMIA TUTIA. 6.

UPPERSIDE. Anterior wing with the base, and a space parallel to the inner margin rufous, marked with a triangular, and two round spots of black. The rest of the wing light black, crossed obliquely beyond the middle by an irregular belt of yellow, a semi-transparent space between it and the apex, the apex with three small points of yellow. Posterior wing rufous, with the margins, and a central transverse belt, black.

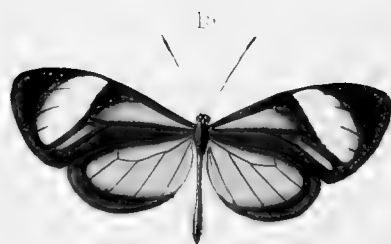
UNDERSIDE. As above, except that both wings have a submarginal row of white points.

Exp.  $2\frac{1}{10}$  inch. Hab. River Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.



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$$A^* = \{x \in \mathbb{R}^n : x_1 = 0, x_2 = 0, \dots, x_n = 0\}$$

Printed at Hullmandel's, Walton

13. *PHOMIA ZELLERII*  
14. *PHOMIA* sp.  
15. *PHOMIA SATAPHA*

G IFF MIA TELPA  
 I LITOMIA VES TELA  
 I TH MIA VIRGINIA

## HELICONIDÆ.

### ITHOMIA III.

---

#### ITHOMIA VALLONIA. 13.

UPPERSIDE. Male. Anterior wing transparent, slightly tinted with yellow. The base and a spot near the anal angle orange. A triangular spot within the cell, a band at the end of the cell (sinuated on both sides), the second median nervule which is broad, the apex and the margins (the outer margin very broadly so) black. Posterior wing with the upper half transparent, slightly tinted with crimson, followed by a narrow band of black, a band of orange, and a marginal border of black. Both wings with a submarginal row of white spots.

UNDERSIDE as above.

Expan.  $2\frac{1}{10}$  in. Hab. River Amazon.

In the Collection of W. W. Saunders.

This very beautiful species, from the Collection of Mr. Saunders, might easily be mistaken for *Sais Cyrianassa* of Doubleday, figured in the "Genera of Diurnal Lepidoptera." It is, however, very distinct, and differs from it in the position of the nervures of the posterior wing.

---

#### ITHOMIA VEIA. 14.

UPPERSIDE. Female, transparent. Anterior wing, slightly tinted with yellow with the margins (narrow except at the apex), a band at the end of the cell (slightly forked at its lower end), and the nervures (except where they are crossed by a large oblique spot of yellow beyond the end of the cell), black. Posterior wing with a broad costal and outer margin, and the nervures black.

UNDERSIDE rufous where black above. Apex of the anterior wing and margin of the posterior with white lunular spots.

Expan. 2 in. Hab. unknown.

In the Collection of W. C. Hewitson.

---

#### ITHOMIA SALAPIA. 15.

UPPERSIDE. Male transparent, slightly tinted with green. Anterior wing with the margins broadly black. A band at the end of the cell, and the second and third median nervules which proceed from it also black. The usual spot on the costal margin, and one or two at the apex, white. Posterior wing with a broad border of black on the costal and outer margins; the nervures white till they approach the outer margin, where they become black.

UNDERSIDE with a rufous band through the middle of the black margins, except the costal margin of the posterior wing, the base of which is marked by a line of yellow; the apex of the anterior wing, and the outer margin of the posterior, with white spots.

Female does not differ.

Expan.  $1\frac{9}{10}$  in. Hab. Quito.

In the Collections of W. W. Saunders and W. C. Hewitson.

This species has a remarkable oval projection near the costal margin on the underside of the posterior wing, which, on the upperside, forms a cup that is filled with hair.

---

ITHOMIA TERRA. 16.

UPPERSIDE. Male transparent. Anterior wing with the margins (the inner margin to the median nervure and its first nervule), a triangular spot at the end of the cell, and the nervures black. Posterior wing with the costal and outer margins and nervures black; the second and third median nervules, and the median nervure between them broadly black.

UNDERSIDE rufous where black above. The apex of both wings with two or three white spots.

Expan. 2 in. Hab. Colombia.

In the Collection of W. W. Saunders.

The male of this species has the same cup-like depression on the margin of the posterior wing which I have just referred to in the last species.

---

ITHOMIA VESTILLA. 17.

UPPERSIDE. Female transparent. Anterior wing with the margins (broad at the apex), a triangular band at the end of the cell, and the nervures (except where they are crossed by a large spot of yellow) black. The second median nervule broadly black, forming, with the band at the end of the cell, a continuous band across the wing. Posterior wing with the margins and nervures black.

UNDERSIDE with a rufous band through the black margins; apex of both wings with two or three white spots.

Expan.  $1\frac{7}{10}$  in. Hab. River Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

---

ITHOMIA VIRGINIA. 18.

UPPERSIDE. Male. Anterior wing dark brown, with a triangular spot at the base, and an oblong spot below it parallel to the outer margin, of a clouded transparent white; crossed beyond the middle by a broad transverse band of white, the nervures on its outer edge black. Posterior wing of a clouded transparent white, a broad margin of brown on the costal and outer margins; the nervures black.

UNDERSIDE. Anterior wing with a rufous band near the outer margins; posterior wing surrounded by it, except on the inner margin.

Female does not differ.

Expan. 2 in. Hab. River Amazon.

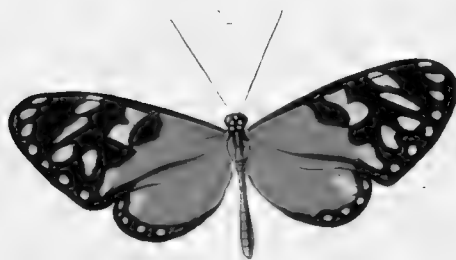
In the Collection of W. W. Saunders.





SUBJECT INDEX

## THEOREM IV



W. A. Hewitt is in debt to L. G. 1873

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TO THE HON. MR. LEPIA.

21. *PHIOMIA HEZIA*

JO THOMAS PERRELLA

28 THOMIA CELEMA

22 THOMAS ASALA

# HELICONIDÆ.

## ITHOMIA. IV.

---

### ITHOMIA ILERDA. 19.

UPPERSIDE. Male. Anterior wing black; the base and two spots obliquely across the middle transparent; crossed near the apex by a broad curved band of orange. Posterior wing transparent tinted with purple, the nervures and costal and outer margins brown.

UNDERSIDE as above, with three or four small white spots at the apex of both wings; the brown margin of the posterior wing traversed by a line of orange.

Expan.  $1\frac{8}{10}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

This species, though very distinct, has at first sight a great resemblance to *Ithomia Ælia* of this work.

---

### ITHOMIA PERIDIA. 20.

UPPERSIDE. Male. Anterior wing black, with numerous semi-transparent nearly white spots, one within the cell (a double triangle); a second on the costal margin beyond the middle; a third a little below it; two macular bands parallel to the outer margin, the first of five large spots, the second near the margin of eight small spots. Posterior wing orange from the inner margin to the middle; the rest black, with two rows of spots, as on the anterior wing; the first of three spots (one united to the orange); the submarginal row of fine spots.

UNDERSIDE as above, with an oblong spot of yellow and orange on the costal margin at the base of the posterior wing.

Expan.  $2\frac{5}{20}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

---

### ITHOMIA HEZIA. 21.

UPPERSIDE. Female. Anterior wing black, with numerous semi-transparent spots of light yellow, one within the cell (a double triangle); two macular bands, each of fine spots, somewhat parallel to the outer margin, the first a little beyond the middle of the wing; two small spots on the costal margin; and three or four at the apex which are white. Posterior wing from the inner margin to the middle brick-red; the rest dark brown, with a small white spot near the apex.

UNDERSIDE. Anterior wing as above. Posterior wing with an orange spot at the base, and a row of white spots near the costal and outer margins.

Expan.  $2\frac{15}{20}$  in. Hab. Nicaragua.

In the Collection of the British Museum.

N.B. This species is more properly a *Mechanitis*. I was misled by its resemblance to two other figures of the plate.

---

ITHOMIA CELEMIA. 22.

UPPERSIDE. Male. Anterior wing, with a large space of orange at the base, marked near the inner margin by a line of black; the rest black, with numerous spots of light yellow; one (a double triangle) in the cell; two macular bands parallel to the outer margin, the first of five large spots (one of which joins the orange space), the other near the outer margin of seven small spots. Posterior wing very small, orange, the outer margin broadly black marked with four white spots.

UNDERSIDE as above, except that the posterior wing has the costal margin broadly black, marked at the base by a linear spot of yellow and orange; two spots of black project from the costal margin.

Expan.  $2\frac{4}{10}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

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ITHOMIA AZARA. 23.

UPPERSIDE. Male semi-transparent. Anterior wing rufous at the base; marked in the middle by a triangular black spot; crossed obliquely at the middle by a broad irregular band of light yellow, reaching from the costal margin to near the anal angle, where it is bifid, its inner border marked by two black spots. The rest of the wing black, with a spot of yellow at the apex. Posterior wing rufous, the outer margin and an indistinct transverse band black.

UNDERSIDE as above, except that there is a line of white spots upon the outer margin of both wings.

Expan.  $2\frac{3}{20}$  in. Hab. Quito.

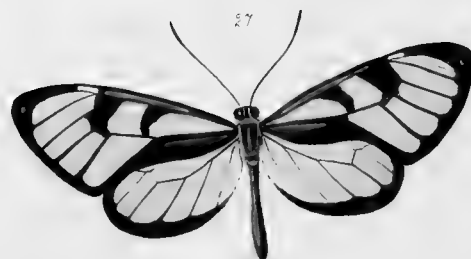
In the Collections of W. W. Saunders and W. C. Hewitson.

There is a variety of this species, with the yellow band less oblique, and without the yellow spot at the apex.



# DELTOGASTRAE.

## ITHOMIA V



V. Cresson del et lith. 1859.

Printed by H. A. Sel & Walton.

24 ITHOMIA DIOMEA

27 ITHOMIA AVELLA

25 ITHOMIA FENESTELLA

28 ITHOMIA FENESTELLA

26 ITHOMIA DIOMEA

29 ITHOMIA FENESTELLA

# HELICONIDÆ.

## ITHOMIA. V.

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### ITHOMIA DIONÆA. 24.

UPPERSIDE. Anterior wing with the basal half orange, the cell marked by an oblique black spot; the apical half of the wing black, with an oblong spot (touching the orange space), an oblique nearly straight band, and a submarginal row of seven spots (three at the apex large, and touching each other), all yellow.

Posterior wing orange, with the margin and a central longitudinal band black.

UNDERSIDE as above, except that the outer margin of the posterior wing has a row of white spots.

The sexes do not differ.

Expan.  $2\frac{1}{2}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

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### ITHOMIA FENESTELLA. 25.

UPPERSIDE. Anterior wing with the basal half orange, marked with two triangular black spots; apical half black with an oblique zigzag band and a submarginal row of seven small spots yellow. Posterior wing orange, with the outer margin, a central longitudinal band, and a small triangular spot black.

UNDERSIDE as above, except that there is on the anterior wing a line of orange between the band and the submarginal spots, and a submarginal row of white spots on the posterior wing.

The sexes do not differ.

Expan.  $2\frac{1}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

This species may be only a variety of *I. Dionæa*, which it much resembles. I have both sexes of each.

---

### ITHOMIA FLUONIA. 26.

UPPERSIDE. Female, anterior wing black. The inner margin, the costal margin to the middle, and a small indistinct spot near the apex, rufous; the centre, with a multiform spot of yellow. Posterior wing rufous, with a central longitudinal band of black.

UNDERSIDE as above.

Expan.  $2\frac{3}{10}$  inch. Hab. River Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

ITHOMIA AVELLA. 27.

UPPERSIDE. Male transparent. Anterior wing with the apex, the outer margin, the inner margin (very broad), a narrow band across the middle of the cell, a broad one at its end, and the nervures, black. The costal margin to beyond the middle, rufous. Posterior wing with the outer margin and nervures black.

UNDERSIDE as above, except that all the black is rufous, that the posterior wing has the base and the cup-like receptacle for the hair yellow, and that the apex of the anterior wing, and the outer margin of the posterior wing, have white lunules.

Expan.  $2\frac{4}{10}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

ITHOMIA DIASIA. 28.

UPPERSIDE. Male transparent. Anterior wing with the margins (the inner margin very broad), a narrow band across the middle and end of the cell, and the nervures, black. Posterior wing with the outer margins and nervures black.

UNDERSIDE as above, except that the base of the posterior wing is yellow, the costal margin orange, and that the apex of the anterior wing and outer margin of posterior wing have white spots.

Expan.  $1\frac{9}{10}$  in. Hab. New Granada.

In the Collection of the Entomological Society.

This and the preceding species, with *I. Terra* (Fig. 16), form a distinct group; they all have the apex of the anterior wing produced, the outer margin long, the space between the median nervure and the inner margin unusually broad, and the singular cup-like receptacle for the hair on the costal margin of the posterior wing.

ITHOMIA MAKRENA. 29.

UPPERSIDE. Female transparent. Anterior wing with the margins, a narrow band across the middle of the cell, a broad one at its end, and the nervures, black. Posterior wing with the nervures and a broad outer margin black.

UNDERSIDE as above, with all the black, except the band at the middle of the cell, rufous. The apex of the anterior wing, and outer margin of the posterior wing, with spots of white.

The sexes slightly differ.

Expan.  $1\frac{9}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

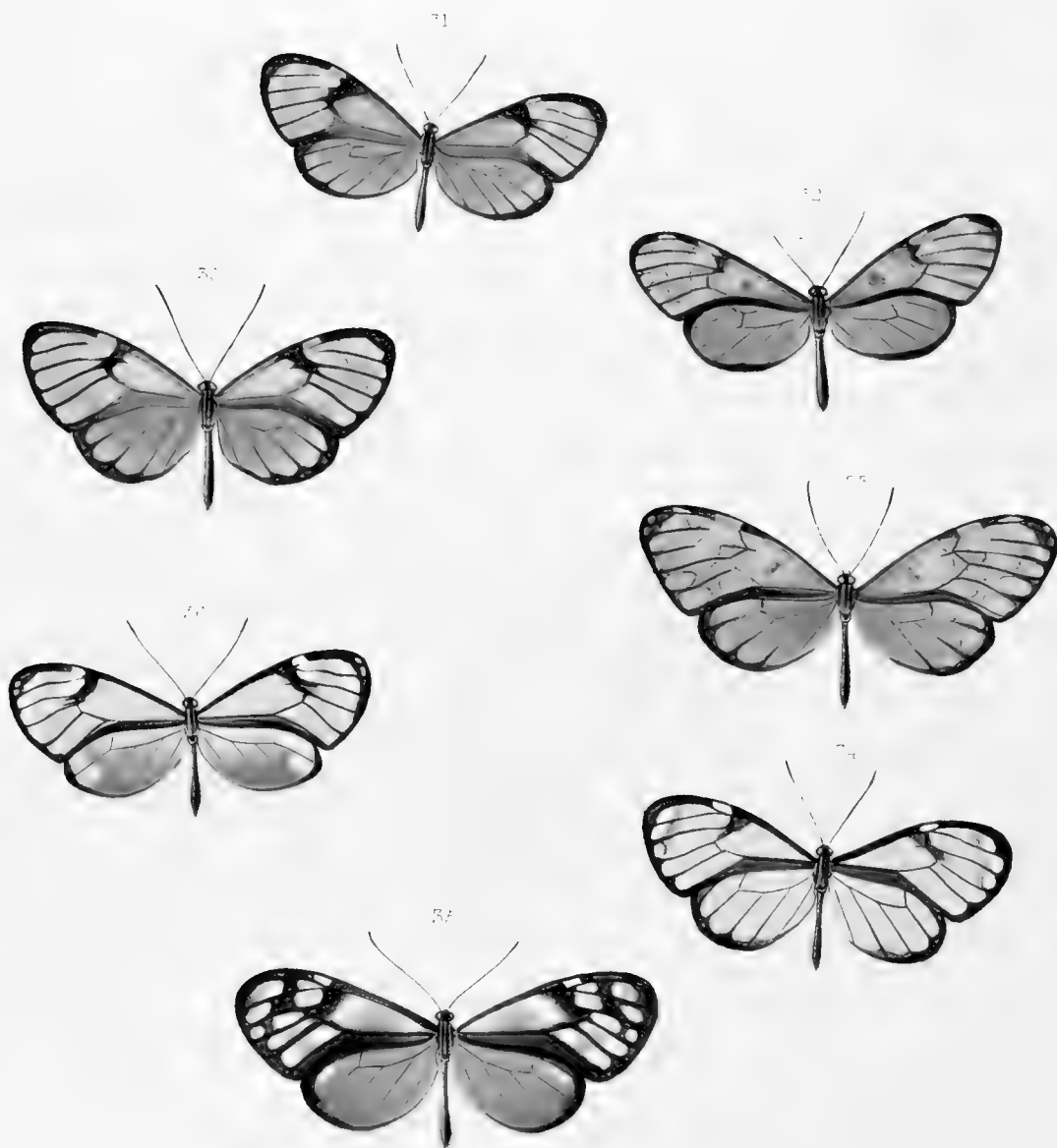
This insect is probably only a beautiful variety of the female of *I. Phenomoe* of Doubleday, the male of which is figured in the "Diurnal Lep.," Pl. 18. Since this figure was drawn I have seen a series of specimens, which incline me to think so.





# HELICONIDÆ.

## ITHOMIA VI



W. C. Hewitson del et lith 1864

Printed by Hullmandel & Walton

31 ITHOMIA GIULIA.

32. ITHOMIA LATILLA

31 ITHOMIA ALETTA

33. ITHOMIA KEDEMA

34 35 36 ITHOMIA LAVINIA Boisduval

# HELICONIDÆ.

## ITHOMIA. VI.

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### ITHOMIA GIULIA. 30.

UPPERSIDE. Female transparent, slightly rufous; the margins (except the inner margins from the base to beyond the middle) black. Anterior wing with an oblique band at the end of the cell, and most of the nervures black; divided into spots beyond the middle by an indistinct cloud of neutral tint; the costal and outer margins to the middle, and the nervures of the posterior wing (except near their points, which are black), orange.

UNDERSIDE as above, except that there are three white spots at the apex of the anterior wing, and a line of white spots near the outer margin of the posterior wing; two between each nervule.

The Male does not differ, except in the form of the posterior wing.

Expan.  $2\frac{1}{10}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

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### ITHOMIA ALETTA. 31.

Does not differ from I. Giulia except in the nervures of the posterior wing.

Male and Female alike.

Expan.  $1\frac{8}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

The same words used to describe the preceding species will apply to this as well. They are, however, abundantly distinct, as will be seen by the very different arrangement of the nervures of the posterior wing, better shown by delineation than description; indeed, written descriptions only are worse than useless to point out the nice distinctions which characterise some of the species of Ithomia. No descriptions of Heliconidæ are more accurate than those of the Icon. du Règne Animal, by M. Guérin-Meneville; but are yet so insufficient, that Mr. Doubleday could not identify the Ithomias by them, though several of them were before him, and, indeed, left them out of this genus.

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### ITHOMIA LATILLA. 32.

UPPERSIDE. Male transparent rufous; the margins (except the inner margin of the posterior wing) brown. Anterior wing, with the nervures, a very slight triangular band within the end of the cell, and an indistinct spot in the middle of the cell, brown; divided into spots beyond the middle by a cloud of neutral tint. Posterior wing more rufous; the nervures entirely rufous.

UNDERSIDE as above, with two white spots at the apex of the anterior wing, and a line of white spots near the margin of the posterior wing, large and round; one between each nervule.

The sexes are alike.

Expan.  $1\frac{9}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

ITHOMIA KEDEMA. 33.

UPPERSIDE. Male transparent rufous; the margins (except the inner margin of the posterior wing) light brown. Anterior wing, with the nervures and an indistinct spot in the middle of the cell, brown; divided into spots beyond the middle by a cloud of neutral colour. Posterior wing, with the nervures, orange; divided into spots near the outer margin by a cloud of neutral colour.

UNDERSIDE as above, with two spots at the apex of the anterior wing, and a line of oval spots near the margin of the posterior wing (two between each nervure), white.

Expan.  $2\frac{2}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

This and the last described are as nearly allied as *I. Giulia* and *Aletta*, and derive their distinctive characters from the same nervures of the posterior wing. They are both males. This species scarcely differs, except in the same nervures, from *C. Jemina* (Hubn. Zut. 807). *Dircenna Iambe*—Gen. Diur. Lep. Pl. 18.

ITHOMIA LAVINIA. 34, 35, 36.

*I. Lavinia.* Boisduval MS.

UPPERSIDE. Male (36) transparent glossy white. Anterior wing, with the margins, a narrow band at the end of the cell, and the nervures, black; divided into spots beyond the middle by a cloud of neutral colour; two indistinct spots at the apex. Posterior wing tinted with orange beyond the middle; the nervures orange.

UNDERSIDE as above. The white spots at the apex of the anterior wing more distinct. The costal margin of the posterior wing orange.

Females, Figs. 34, 35.

Expan. ♂  $1\frac{9}{10}$ , ♀  $2\frac{5}{20}$  in. Hab. New Granada.

In the Collections of Dr. Boisduval and W. C. Hewitson.

Much as these three Butterflies vary in colour, I cannot separate them. I have no doubt whatever that Figs. 35 and 36 are of the same species. The Female does not differ from the Male, except in the greater quantity of colour. A Male in the Collection of Dr. Boisduval has much less orange on the posterior wing. With regard to Fig. 34, there is room for some doubt. Besides wanting colour, it is less glossy, has the nervures of the posterior wing black, and the margins below rufous.



# HELICONIDÆ.

## ITHOMIA VII



WCHewitson, del et lith 1854

Printed by Hullmandel & Walton

37	ITHOMIA NERO	Boisduval	
38	ITHOMIA ANDROMICA	Boisduval	40 ITHOMIA ZEA Boisduval
39	ITHOMIA LEO	D <sup>o</sup>	41 ITHOMIA CESLERIA D <sup>o</sup>

# HELICONIDÆ.

## ITHOMIA. VII.

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### ITHOMIA NERO. 37.

*I. Nero. Boisd. MS.*

UPPERSIDE. Female transparent, glossy, tinted with brown; the margins black; the nervures thick and black, except where they cross the white of the anterior wing. Anterior wing with a broad quadrate band of black at the end of the cell, followed by a band of white which is extended in a point to nearly the middle of the outer margin. Near the outer margin of both wings are spots of white.

UNDERSIDE as above, except that all the black is rufous.

Expan.  $2\frac{4}{10}$  in. Hab. Mexico.

In the Collection of Dr. Boissduval.

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### ITHOMIA ANDROMICA. 38.

*I. Andromica. Boisd. MS.*

UPPERSIDE. Male transparent rufous-white; the margins (except the inner margin of the posterior wing) black; the nervures (except where they cross the white of the anterior wing) black. Anterior wing with a triangular band of black at the end of the cell, followed by a broad straight band of white, which reaches to the middle of the outer margin; apex broadly black, with two white spots.

UNDERSIDE as above, except that the black is rufous, and that there are two indistinct white spots on the apex of the anterior wing.

Expan.  $2\frac{2}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

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### ITHOMIA OTO. 39.

*I. Oto. Boisd. MS.*

UPPERSIDE. Female transparent rufous-white. Anterior wing, with the apex, the margins, a broad quadrate band at the end of the cell, and the nervures (except where they cross the white), black; a narrow curved oblique band of white crosses the apex, terminating at the middle of the outer margin in a round spot. Posterior wing, with the nervures (which are very fine), black; the outer margin rufous, bordered inwardly with black.

UNDERSIDE as above, except that the black is rufous.

Expan.  $2\frac{3}{10}$  in. Hab. Guatemala.

In the Collections of Dr. Boissduval and the British Museum.

ITHOMIA ZEA. 40.

*I. Zea. Boisd. MS.*

UPPERSIDE. Female transparent rufous-white; the costal and inner margins from the base to the middle of the wing rufous; a narrow band half across the cell beyond the middle, and a very broad quadrate band at the end of the cell, black, followed by a band of white terminating at the third median nervule; the apex, the outer margin (except where deeply sinuated beyond the middle by a spot of white), broadly black; a large spot of white near the apex. Posterior wing, with the nervures, which are fine, black; the outer margin rufous-brown, bordered inwardly with black.

UNDERSIDE as above, except that all the black is rufous-brown, and that there is one spot of white at the apex of the outer wing, and several on the outer margin of the posterior wing.

Expan.  $2\frac{3}{10}$  in. Hab. Mexico.

In the Collection of Dr. Boisduval.

ITHOMIA CESLERIA. 41.

*I. Cesleria. Boisd. MS.*

UPPERSIDE. Female: anterior wing black, with a triangular spot at the base within the cell; a quadrate spot also in the cell; five oblong parallel spots (that nearest the costal margin clouded across the middle) radiating from the centre to the outer margin, and divided from each other by the nervures (which are black and broad), transparent-white; a small opaque white spot on the costal margin, and two indistinct spots at the apex. Posterior wing transparent white; the nervures, which thicken towards the outer margin, and the outer margin which is broad, black, with four white spots.

UNDERSIDE rufous where black above; three spots at the apex of the anterior wing, and six, on the outer margin of the posterior wing, bordered with black.

Expan.  $2\frac{6}{10}$  in. Hab. Colombia.

In the Collection of Dr. Boisduval.

The muscular and ponderous appearance of this species almost unfits it for association with the fragile fairy forms which characterise most of the numerous species of this very beautiful genus. It seems to connect *Ithomia* somewhat with Doubleday's genus *Ituna*.

It will be seen that four of the Butterflies figured in the Plate, and many more besides, are from the Collection of Dr. Boisduval of Paris, whose great liberality entrusted to the care of Mr. Saunders and myself, not only these very rare species, but allowed me to select and bring away with me whatever number we wished to illustrate from his unrivalled collection. I cannot express how much I value his generosity.





# ILLUSTRATED PLATE VII



W. C. Cresson, Del. et Sculp. 1864

Printed by Hullmandel & Walton

- |                             |                               |
|-----------------------------|-------------------------------|
| 43 ITHOMIA VITAEBOE         | 45 ITHOMIA AGROSTIA Dondelers |
| 44 ITHOMIA ADAPTA           | 46 ITHOMIA CYCLOPHORA Say     |
| 47 ITHOMIA LIMNA            | 48 ITHOMIA ADINA              |
| 49 ITHOMIA ANTHEA Fiedusval |                               |

# HELICONIDÆ.

## ITHOMIA. VIII.

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### ITHOMIA EDESSA. 42.

UPPERSIDE. Female: transparent rufous-white; the nervures and margins black. Anterior wing, with an *oblique* broad equal band at the end of the cell and *in the middle* of the wing, followed by an indistinct short band of white; some scarcely visible spots of white near the outer margin of both wings.

UNDERSIDE, with the black rufous. The costal margin at the base of the posterior wing yellow; three white spots on the apex of the anterior wing, and a line of white spots bordered with black, on the outer margin of the posterior wing.

I have not seen the Male.

Expan.  $2\frac{3}{10}$  in. Hab. Brazil.

In the Collection of W. C. Hewitson.

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### ITHOMIA ADASA. 43.

UPPERSIDE. Female: transparent purple-white; the nervures and margins black. Anterior wing, with a broad unequal *perpendicular* band at the end of the cell *beyond the middle* of the wing.

UNDERSIDE, with the black rufous. The costal margin of the posterior wing in the Male (the only sexual difference) orange; the apical white spots very indistinct.

Expan.  $2\frac{1}{10}$  in. Hab. Brazil.

In the Collection of W. C. Hewitson.

Very closely allied to Edessa; the band at the end of the cell is at a very different angle, and much further from the base of the wing. Another nervule is also seen on the posterior wing (not a sexual distinction in this case, because they are both females).

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### ITHOMIA TIMNA. 44.

UPPERSIDE. Female: transparent rufous-white. The margins and the nervures (except where they cross the white of the anterior wing) black. Anterior wing, with a narrow triangular band at the end of the cell, followed by a broad band of white reaching to the middle of the outer margin; the second median nervule *broad and straight*.

UNDERSIDE, with the black rufous, with indistinct white spots at the apex of both wings.

Expan.  $1\frac{7}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

This species has a great resemblance to I. Vestilla of a former Plate; but has the nervures of the posterior wing differently placed. I have not seen the Male.

ITHOMIA AGNOSIA. 45.

*I. Agnosia. Doubleday—Brit. Mus. Cat. (undescribed).*

UPPERSIDE. Male: transparent rufous-white. The margins and the nervures (except where they cross the white of the anterior wing) black. The band at the end of the cell broad and unequal, extending beyond the cell and forked, followed by a short band of white; the second median nervure *broad and curved*.

UNDERSIDE, with the black rufous. The costal margin at the base of the posterior wing yellow.

I have not seen the Female.

Expan.  $1\frac{7}{10}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

ITHOMIA CYMOTHOE. 46.

*I. Cymothoe. Klug. MS.*

UPPERSIDE. Male: transparent rufous-white; the margins and nervures black. Anterior wing, with a band at the end of the cell (situated on the inner side), black, followed by a short band of white.

UNDERSIDE, with the black light rufous.

Expan. 2 in. Hab. Caraccas.

In the Collections of W. W. Saunders and W. C. Hewitson.

*I. Cymothoe* differs from all the allied species in the position of the nervures of the posterior wing. The disco-cellular nervures form one straight line; the median nervure of the anterior wing before its first branch is unusually short.

ITHOMIA ADINA. 47.

UPPERSIDE. Male: transparent rufous-white. The margins and all the nervures black; the band at the end of the cell very narrow, triangular and within the cell; the white spot on the costal margin unusually long.

UNDERSIDE, with the black rufous. Two spots of white at the apex of the anterior wing, and one between each nervure on the outer margin of the posterior wing.

Expan.  $2\frac{2}{10}$  in. Hab.

In the Collection of W. C. Hewitson.

ITHOMIA ARTENA. 48.

*I. Artena. Boisd. MS.*

UPPERSIDE. Male: transparent purple-white. The margin and nervures (except where they cross the white of the anterior wing) black; the band at the end of the cell equal, slightly forked, followed by an indistinct short band of white.

UNDERSIDE, with the black light rufous. Anterior wing with two white spots at the apex; posterior wing with one only.

Expan.  $2\frac{2}{10}$  in. Hab. Mexico.

In the Collections of W. W. Saunders and W. C. Hewitson.





# HELICONIDÆ.

## ITHOMIA. IX.

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### ITHOMIA ZAVALETA. 49.

UPPERSIDE. Female: transparent green-white. Anterior wing slightly clouded beyond the middle, with the margins, the nervures, a spot in the middle of the cell, and a slight triangular band at the end of the cell, light brown. Posterior wing, with the base brown; the nervures at each end, and the outer margin (which is broad), black, with a line of five white spots.

UNDERSIDE, with some minute spots on the outer margin of the anterior wing.

Expan.  $2\frac{3}{10}$ . Hab.

In the Collection of W. C. Hewitson.

Will arrange near to *I. Cæno* of the Genera of Diurnal Lepidoptera, Plate 18.

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### ITHOMIA PHILOCLEA. 50.

UPPERSIDE. Female: transparent green-white; the margins brown. Anterior wing, with the band at the end of the cell, perpendicular, equal, and the nervures (the median broad) black. Posterior wing, with the nervules beyond the middle, black.

UNDERSIDE, with the black rufous; the spots at the apex of the anterior wing, and on the margin of the posterior (two between each nervule) silvery-white; the costal margin at the base of the posterior wing yellow-white.

Expan.  $2\frac{3}{10}$  in. Hab. Brazil.

In the Collection of W. C. Hewitson.

Near *I. Eupompe* of Hubner (Zut. Fig. 699); but has the posterior wing of quite a different form.

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### ITHOMIA FLORULA. 51.

*I. Florula.* Boisduval. MS.

UPPERSIDE. Male: transparent purple-white; the margins and nervures black. The band at the end of the cell black, broad, unequal, produced till it meets a band, which, running parallel to the outer margin, divides the wing into several spots.

UNDERSIDE, with the black orange; the apex of the anterior wing with white spots.

Expan.  $1\frac{1}{2}$  in. Hab. Cayenne.

In the Collection of Dr. Boisduval.

ITHOMIA STELLA. 52.

UPPERSIDE. Male and Female: transparent white; the margins (except the inner margins from the base to the middle) and the nervures from the middle black; the base tinted with orange; the outer margins with a line of oval white spots. Anterior wing with a large spot in the cell and the end of the cell black; divided into spots beyond the middle by a cloud of neutral colour. Posterior wing with a black spot at the end of the cell.

UNDERSIDE as above.

Expan.  $1\frac{8}{10}$ . Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

ITHOMIA MERGELENA. 53.

UPPERSIDE. Male and Female: anterior wing black, the base orange; a spot at the end of the cell (within it), two spots between it and the outer margin, and a curved band across beyond the middle, transparent yellow. Posterior wing transparent yellow; a broad outer margin, and a quadrate projection from it, black; each wing with a submarginal line of seven yellow spots.

UNDERSIDE as above, except that the costal margin of the posterior wing is black.

Expan.  $2\frac{3}{10}$  in. Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

ITHOMIA VIRGINIA. 54.

*I. Virginia. Boisd. MS.*

UPPERSIDE. Male: anterior wing, from the base to beyond the middle (except the margins, which are black), brick-red; the rest black, with nine white spots: two (very small) within the cell, one near the anal angle, three forming an oblique band across the wing beyond the middle, one at the apex, and two smaller ones a little below it near the outer margin. Posterior wing brick-red; the apex (which has two white spots) and part of the outer margin black.

UNDERSIDE entirely brick-red, with the spots as above. Posterior wing with three white spots at the apex.

Expan.  $2\frac{7}{10}$  in. Hab. Mexico.

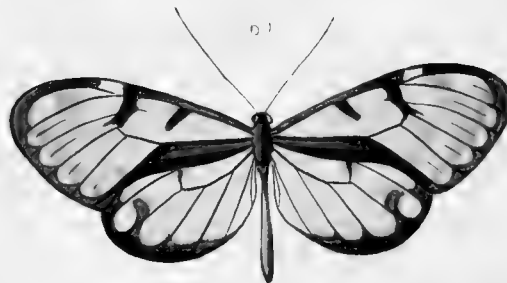
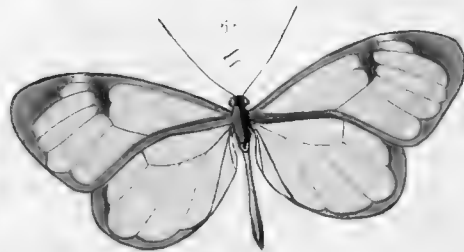
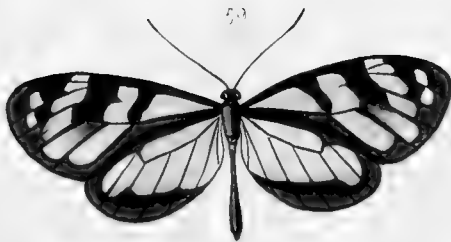
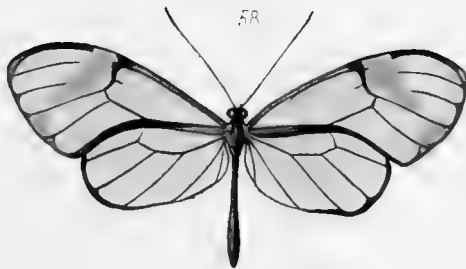
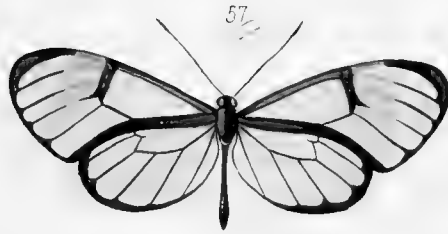
In the Collection of Dr. Boisdual.

This species is at first sight as much like *Leptalis* as *Ithomia*, and forms another link between two closely-connected genera.





HELICONIDAE.  
ITHOMIA X



W. C. Hewitson del et lith 1855

Printed by Hüllsmädel & Walton

55. ITHOMIA MORGANE

56. ITHOMIA TELESTO

57. ITHOMIA ALIDA

58. ITHOMIA DERCETIS

59. ITHOMIA MAKRENA

60. ITHOMIA PENINNA

# HELICONIDÆ.

## ITHOMIA. X.

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### ITHOMIA MORGANE. 55.

*H. Morgane. Hubn. Zutr. figs. 869, 870.*

UPPERSIDE. Female transparent rufous-white, glossy; the margins (broad at the apex) and the nervures rufous; a short, irregular, transverse band of brown at the end of the cell.

The Male differs only in having the band at the end of the cell narrower.

UNDERSIDE as above.

Expan.  $2\frac{4}{10}$  in. Hab. Mexico.

In the Collection of the British Museum.

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### ITHOMIA TELESTO. 56.

*I. Telesto. Doubleday, Brit. Mus. Cat.*

UPPERSIDE. Female transparent rufous-white; the margins and nervures rufous-brown; the band at the end of the cell transverse, brown, followed by a short band and spot of white, and four submarginal spots also white, but less distinct.

UNDERSIDE as above, with one or two small spots of white on the apex of the posterior wing.

Expan.  $2\frac{1}{2}$  in. Hab. Mexico.

In the Collection of the British Museum.

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### ITHOMIA ALIDA. 57.

UPPERSIDE. Female transparent white, *very* glossy; the margins and nervures (except where they cross the yellow band of the anterior wing) brown; the band at the end of the cell equal transverse dark brown, followed by a broad band of yellow.

UNDERSIDE as above, but much lighter, with two distinct white spots on the apex of each wing, and some indistinct white spots on the margin of the posterior wing.

Expan.  $2\frac{3}{10}$  in. Hab.

In the Collections of the British Museum and W. C. Hewitson.

This species is almost identical at first sight with the female of *I. Dercetis*. Its body is shorter, and the nervures of the posterior wing are very differently arranged.

ITHOMIA DERCETIS. 58.

*I. Dercetis.* Doubleday & Hewitson, *Gen. Diur. Lep. Pl.* 18.

UPPERSIDE. Male transparent rufous-white, glossy; the margins (very narrow), and the nervures (except where they cross the yellow band of the anterior wing) dark brown. The band at the end of the cell very narrow, curved, followed by a broad sinuated band and a marginal spot of yellow.

UNDERSIDE as above, but lighter.

The female differs from the male, only in having the margins and band rather wider.

Expan.  $2\frac{9}{20}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

I have repeated here drawings of *I. Dercetis* and *Morgane* to make this beautiful group of butterflies, of which we have already figured sixty-one species, more perfect.

ITHOMIA MAKRENA. 59.

*I. Makrena.* Hewitson *Exot. But. Ithomia*, fig. 29.

The butterfly now figured differs remarkably in size, and also in the depth of colour, from that which is represented at Fig. 29, but in every other respect they are alike, and I have no doubt are the same species, having seen one which is intermediate. When I described the butterfly at Fig. 29, I stated my belief that it was probably only a female variety of *Phenomoe*, of the Genera of Diurnal Lepidoptera. Having since then received a male of *Makrena*, I find they are distinct, although most closely allied. The male of *Makrena* has the apex of the anterior wing more pointed, the margins broader and much darker; and on the underside the apex of both wings and the margin of the posterior wing are marked with white spots, whilst the male of *Phenomoe* is without any, and the female has them only on the apex. I shall hope to figure the male of *Makrena* and both sexes of *Phenomoe* on a future plate.

ITHOMIA PENINNA. 60.

UPPERSIDE. Male transparent clouded lilac-white; the nervures and margins (the inner margin of the anterior wing broad) brown. Anterior wing with an oblique spot across the middle of the cell, and a curved band at the end of the cell brown; clouded from the band to the apex, leaving several light submarginal spots. Posterior wing with the outer margin near the apex broad, enclosing a round spot.

UNDERSIDE as above, with all the brown rufous.

Expan.  $2\frac{13}{20}$  in. Hab. Bolivia.

In the Collection of the British Museum.



# HELICONIDÆ.

## ITHOMIA XI



W.C. Hewitson, del et lith, 1855.

Printed by Hullmandel & Walton.

- |                         |                        |
|-------------------------|------------------------|
| 61. ITHOMIA DERASA.     | 64. ITHOMIA CLEORA     |
| 62. 63 ITHOMIA ELARA.   | 65. ITHOMIA CYRIANASSA |
| 66. 67. ITHOMIA INACHIA |                        |

## HELICONIDÆ.

### ITHOMIA. XI.

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#### ITHOMIA DERASA. 61.

*I. Derasa. Boisd. Ms.*

UPPERSIDE. Male transparent yellow-white; the margins (the outer margins broad) brown. Anterior wing with a curved very narrow band at the end of the cell, and the second and third median nervules black, the rest of the nervules (except where they run into the outer margin) yellow. Outer margin of both wings with white spots, indistinct on the anterior wing, except at the apex.

UNDERSIDE as above, except that the white spots are more distinct.

Expan.  $1\frac{8}{10}$  in. Hab. Nicaragua.

In the Collection of Dr. Boisduval.

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#### ITHOMIA ELARA. 62, 63.

UPPERSIDE. Male anterior wing dark or light brown, with a large triangular space from the base to beyond the middle, and an oblique narrow band between it and the apex, light-yellow.

UNDERSIDE as above, with a rufous band parallel to the costal and outer margins, broken by both ends of the narrow band. Posterior wing with a similar rufous band near the outer margin. Both wings with a row of white spots between the rufous band and the margin from the apex to the middle.

Expan.  $1\frac{6}{10}$  to  $1\frac{7}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

I believe these figures to be varieties of the same species. They are both males, and the females do not differ from them, nor do they differ from each other, except in the depth of colour and the triangular mark near the costal margin of the posterior wing of Fig. 63; but this difference occurs in the same species of other Ithomias. These form a connecting link between *Reckia* of Hubner, and *Eurimedia* of Cramer (*Aegle*, Hubn.), and are I think sufficiently distinct from both; the band across the apex is narrower, they have more of the rufous submarginal band on the under-side, and the white spots near the margin do not extend beyond the middle of the wing.

ITHOMIA CLEORA. 64.

UPPERSIDE. Male transparent rufous and lilac-white. Anterior wing with the margins, a curved band across the middle of the cell, a band at the end of the cell curved in the opposite direction and the nervures (the second and third median nervules broad) brown. A space near the base below the median nervure and a spot near the outer margin touching the second median nervule, rufous. Posterior wing broadly margined with brown, traversed by a band of orange; the nervures rufous; both wings with a submarginal row of white spots.

UNDERSIDE as above.

Expan.  $2\frac{3}{10}$  in. Hab. Guayaquil.

In the Collection of the British Museum.

I have figured one species of *Ithomia*, which in its general appearance and colour reminded me of the genus *Ituna*; a second, which scarcely differs at first sight from *Dircenna*, and now the insect which I have named *Cleora*, is very much like a species of a third Heliconian genus *Athesis* *Clearista*.

ITHOMIA CYRIANASSA. 65.

*I. Cyrianassa. Doubleday & Hewitson Gen. Diur. Lep. Pl. 18.*

UPPERSIDE. Male and Female. Anterior wing with the basal half transparent, orange at the base; the margins and the outer half of the wing black, crossed by a large curved semi-transparent band of yellow-white, deeply sinuated on its inner edge; a row of indistinct white spots near the outer margin. Posterior wing transparent; the outer margin broadly orange, bounded on both sides with black.

UNDERSIDE, as above. Anterior wing with the white spots more distinct. Posterior wing, with some small and indistinct spots.

Expan.  $1\frac{8}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

The figure in the genera of Diurnal Lepidoptera was made from a very faintly-marked specimen. I have repeated it here to show its usual colouring, and have some doubt as to its being distinct from *Rhezia* of Hubner, which I have not seen.

ITHOMIA INACHIA. 66, 67.

UPPERSIDE. Male and Female transparent. Anterior wing with the basal half rufous or yellow-white; a large oval oblique spot across beyond the middle yellow-white; the margins (the outer one broad) and an oblique triangular band at the end of the cell continued to the outer margin black. Posterior wing rufous or yellow-white; the outer margin broadly black, traversed sometimes by a band of orange. The outer margins of both wings with a row of scarcely visible spots, except at the apex of the anterior wing, where two of them are distinct.

UNDERSIDE as above, except that the outer margin of the posterior wing has always the orange band.

Expan.  $1\frac{9}{10}$  in. Hab. Amazon.

In the Collections of W. W. Saunders and W. C. Hewitson.

I cannot discover any distinctive character sufficient to separate these two butterflies; they are alike on the underside, except that the orange margin of Fig. 67 is narrower; and it is with some doubt that I have separated them from Fig. 65. This species has the antennæ black, *Cyrianassa* has them rufous at the point and rather longer.





# HELIOPHILA ITHOMIA



W. Edwards, 1881, p. 15, 16

P. 12, 13, 14, 15, 16, 17, 18

- |                       |                   |
|-----------------------|-------------------|
| 64 ITHOMIA HILTI      | 12 ITHOMIA TOLOSA |
| 65 ITHOMIA ALPESOLANA | 13 ITHOMIA GALATA |
| 66 ITHOMIA GIMBRIA    | 14 ITHOMIA ITHFA  |

# HELICONIDÆ.

## ITHOMIA. XII.

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### ITHOMIA FLORA. 68, 69.

*P. Flora.* Cramer, *Pl.* 257, and *P. Astrea*, *Pl.* 22.

UPPERSIDE. Male and Female transparent lilac-white; the nervures and margins black (the outer margins, as in Fig. 69, sometimes rufous). Anterior wing with a narrow band across the middle of the cell, and a broad oblique band at the end of the cell, extending beyond the median nervure, and joined to the outer margin by two broad nervules.

UNDERSIDE, with the margins (except the costal margin of the anterior wing) and the centre of the band, rufous. Two or three indistinct white spots on the apex of both wings.

Expan.  $1\frac{1}{2}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

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### ITHOMIA HIPPODAMIA. 70.

*P. Hippodamia.* Fabricius, *Ent. Syst.*

UPPERSIDE. Female. Anterior wing black, with a triangular spot at the base and an oblong spot both within the cell, followed beyond the middle by five spots, three large and divided by nervures, two small placed between the others, all transparent lilac-white.

Posterior wing transparent lilac-white; the outer margin broadly brown, with the centre rufous.

Expan.  $1\frac{9}{10}$  in. Hab. Brazil.

In the Collection of W. C. Hewitson.

I am enabled by the kindness of Dr. Boisduval to figure this the species described by Fabricius. If I had seen it previous to the publication of I. Egra (*Exot. But.*, Ithomia I., Fig. 4) I should have figured that insect as a variety of Hippodamia, although there is some disparity of form as well as colour.

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### ITHOMIA FIMBRIA. 71.

UPPERSIDE. Female black. Anterior wing with a large rufous spot at the base its centre marked by a triangular spot of black; followed within the cell by an oblique band, and at the middle of the wing by a transverse very irregular sinuated band, both pale yellow. Posterior wing, with the basal half, semi-transparent rufous-yellow, followed by a band of black; the outer half orange, the outer margin black. Both wings with a submarginal row of distinct white spots.

Expan.  $2\frac{1}{2}$  in. Hab. New Granada.

In the Collection of W. C. Hewitson.

This very distinct species was sent me by Mr. T. J. Stevens, of Bogota.

ITHOMIA TOLOSA. 72.

UPPERSIDE. Male. Anterior wing, with the basal half (except the costal margin, which is black) brick-red. The outer half black, with five large yellow-white spots. Posterior wing brick-red, with the outer margin black. Both wings with a sub-marginal row of white spots, some of them indistinct.

UNDERSIDE as above, but lighter; the marginal spots more distinct.

Expan.  $2\frac{5}{10}$  in. Hab. Mexico.

This species, and I. Virginia (Fig. 54), though almost identical in colour, are entirely and strangely different in the position of the nervures. The median nervures of the anterior wings of the two species from the base to the first nervule, differ nearly one-half in length.

N.B. I. Virginia, Fig. 54, must be called I. Virginiana, the same specific name having been used for Fig. 18 of this work.

ITHOMIA GALATA. 73.

UPPERSIDE. Female transparent rufous-white; the nervures and margins black. Anterior wing crossed at the middle of the cell by a narrow band, and at the end of the cell by a broad, irregular, oblique band, reaching beyond the median nervure, and joined to the outer margin by the second median nervule, which is broad. The apex with two indistinct white spots.

UNDERSIDE as above, except that the base of the posterior wing is yellow, the costal margin, and a spot near the anal angle rufous, and the apex of both wings is marked by *four distinct white spots*.

Expan.  $1\frac{9}{10}$  in. Hab.

In the Collection of the British Museum.

Allied to Flora, but abundantly distinct in form and the position of the nervures of the posterior wing.

ITHOMIA ITHRA. 74.

UPPERSIDE. Male transparent crimson-white; nervures and margins black. Anterior wing crossed beyond the middle by a broad oblique band of black, extending beyond the median nervure, and joined to the outer margin by two broad nervules. Posterior wing, with the centre of the outer margin, rufous.

UNDERSIDE as above, with most of the black rufous. Anterior wing with two white spots at the apex.

Expan.  $1\frac{1}{2}$  in. Hab. Amazon.

In the Collection of W. W. Saunders.

Differs from Cymo of Hubner's Sammlung (I. Galita, Ithomia I., Fig. 5 of this work), which it most resembles in the position of the nervures of the posterior wing.

N.B. Hubner's name of Cymo having been first used, my Galita must cease; I have, therefore, used it again for another species, and have accidentally altered the spelling.



# *Phaenocarpa* *Phaenocarpa*



*Phaenocarpa* *Phaenocarpa*

*Phaenocarpa* *Phaenocarpa*

*Phaenocarpa* *Phaenocarpa*  
*Phaenocarpa* *Phaenocarpa*  
*Phaenocarpa* *Phaenocarpa*

# HELICONIDÆ.

## ITHOMIA. XIII.

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### ITHOMIA VICTORINA. 75.

*H. Victorina. Guér. Icon. du Règne Animal (texte).*

UPPERSIDE. Female transparent rufous-white; the margins and nervures (except where they cross the white) black. Anterior wing with a broad oblique short band at the end of the cell, joined to the outer margin by the second median nervule, which is broad, and followed by a broad band of white, reaching nearly to the outer margin.

UNDERSIDE with all the margins brown; two or more indistinct white spots at the apex of each wing.

Expan.  $1\frac{1}{2}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

The males differ only in having the short black band at the end of the cell narrower and more triangular. There is a variety in the Collection of Dr. Boisduval in which the band is narrow and curved, and joined at the point to the third median nervule. The second median nervule is not, as usual, broad and black.

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### ITHOMIA COTYTTO. 76.

*H. Cotyto. Guér. Icon. du Règne Animal (texte).*

UPPERSIDE. Female transparent lilac-white; the margins and nervures (except where they cross the white) black. Anterior wing with a short broad oblique band at the end of the cell, joined to the outer margin by two broad nervules, and followed by a band of white reaching beyond the middle.

UNDERSIDE rufous, where black above; the apex of both wings with three white spots, those on the anterior wing *at a distance from the margin*.

Expan.  $2\frac{3}{4}$  in. Hab. Venezuela.

In the Collections of W. W. Saunders and W. C. Hewitson.

The small white spots which are placed at the apex of the wing, close to the margin on the underside, of most of the Ithomias, are on the anterior wing of this species at a distance from the margin, and as far as I have examined this genus are characteristic of this species only.

ITHOMIA ATTALIA. 77.

UPPERSIDE. Male black. Anterior wing with the basal half of the cell, a bilobed spot also within the cell, followed by nine other spots, all lilac-white. Two small spots on the costal margin, and three at the apex, opaque-white. Posterior wing with a central band transparent lilac-white divided by the nervures. The apex with two or three white spots.

UNDERSIDE with most of the black rufous, but chiefly in the direction of the nervures. The posterior wing with a submarginal row of white spots.

Expan.  $2\frac{1}{2}$  in. Hab. Bolivia.

In the Collection of the British Museum.

ITHOMIA ARDEA. 78.

UPPERSIDE. Male transparent lilac-white; the margins and nervures (except where they cross the white) black. Anterior wing with an oblique triangular band at the end of the cell, extending beyond the median nervure, joined to the outer margin by the second median nervule, which is broad, and followed by a band of white.

UNDERSIDE rufous where black above; the apex of both wings with some indistinct white spots.

Expan. 2 in. Hab. Bolivia.

In the Collection of the British Museum.

Much resembling *I. Virginia*, Fig. 18, in general aspect, but with the nervures very differently arranged.

ITHOMIA PHONO. 79, 80.

*H. Phono.* Hubner *Zut. Figs.* 987, 988. *P. Diaphana.* Cramer, *Pl.* 315.

UPPERSIDE. Female transparent rufous or lilac-white; the margins and nervures black. An oblique band at the end of the cell, joined to the outer margin by the second and third median nervules which are generally rather thicker than the other nervures. Posterior wing with sometimes a triangular black spot which conceals the disco-cellular nervures.

UNDERSIDE rufous where black above; the costal margin, from the base to the middle of the posterior wing, yellow.

Expan.  $1\frac{9}{10}$  in. Hab. New Granada.

In the Collections of W. W. Saunders and W. C. Hewitson.

The male, of which I have seen but one example, has the band at the end of the cell narrower, more sinuated on its inner side, and not reaching beyond the median nervure. In some of the females this band reaches further than in either of the figures of the plate.











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